

Contract:

ENEA – Banco Interamericano de Desarrollo (BID) or InterAmerican Development Bank (IDB)

Manejo de Riesgos en Valparaiso, Servicios Técnicos


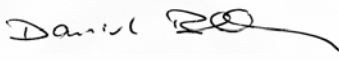
Acronym: "MAR VASTO"

ATN/II-9816-CH

Contract n.

PRM.7.035.00-C

LASER SCANNER SURVEY OF THREE CHURCHES IN VALPARAISO (CHILE)

3			Name					
			Signature					
2			Name					
			Signature					
1			Name					
			Signature					
0	Date	26 FEB 2008	Name	M. Balzani	D. Blersch			
			Signature					
				AUTHORS				

Contract:

ENEA – Banco Interamericano de Desarrollo (BID) or InterAmerican Development Bank (IDB)

Manejo de Riesgos en Valparaiso, Servicios Técnicos

Acronym: “*MAR VASTO*”

ATN/II-9816-CH

Contract n.

PRM.7.035.00-C

WORKPACKAGE 02 - WP02

WORKING UNIT SPECIFIC FINAL REPORT

3			Name						
			Signature						
2			Name						
			Signature						
1	Date	26 FEB 2008	Name	Balzani					
			Signature						
0	Date	26 FEB 2008	Name	Blersch					
			Signature						
				AUTHORS					

WORKING UNIT SPECIFIC FINAL REPORT

PROJECT: “MAR VASTO” – “Manejo de riesgos en Valparaíso”

TOPIC: DIGITAL SURVEY BY MEANS OF 3D LASER SCANNER

OBJECTS: IGLESIA LA MATRIZ DEL BARRIO PUERTO

IGLESIA SAN FRANCISCO DEL BARÓN

IGLESIA HERMANAS DE LA DIVINA PROVIDENCIA DEL ALMENDRAL

@ VALPARAÍSO - CHILE

WORKING UNIT:

DIAPReM

Development of Integrated automatic Procedures for Restoration of Monuments

Department of Architecture

University of Ferrara

Via Quartieri 8

44100 Ferrara – Italy

Marcello Balzani

_director and scientific responsible

Daniel Chudak (DIAPReM/AGAVE Cons.)

_logistics

Daniel Blersch

_technical responsible

_field coordination and data processing

The field works were coordinated with

the technical support of

GEOCOM SA

Av. Salvador 1105

Providencia

Santiago – Chile

Carlos Escudero, CEO

Marco Quevedo Tapia, field engineer

Oswaldo Neira Figueroa, field engineer

the logistic support of

Ilustre Municipalidad de Valparaíso

Oficina de Gestión Patrimonial

Condell 1490

Valparaíso – Chile

Paulina Kaplan Depolo, director

Sótero Apablaza Minchel, logistics coordinator

Carolina Avalos Avalos, logistics & support

Claudia Zuñiga Jara, logistics & support

Bomberos de Valparaíso (Dep. 10 & 14)

Carabineros de Chile

Ferrara, February 25, 2008



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.

CFR

Consorzio
Ferrara
Ricerche

1. REFERENCE:

According to the "Planning Report of Digital Survey in Valparaíso, Chile" (October 05, 2007) by D. Blersch (DIAPReM) the following scientific activities have been executed:

- 1.1 Digital survey by means of 3D HDS laser scanner based on "time-of-flight" technology of the "Iglesia La Matriz" situated in the Barrio Puerto area of the municipality of Valparaíso, Chile.

a) Field operations:

Laser scanning survey: November 05-07, 2007 by DIAPReM (with Geocom)
Topographic survey: November 26, 2007 by DIAPReM (operated by Geocom)

The survey was optimized for the metric documentation of the architectural and structural elements in the surface of the building by a resolution of a 2 x 2 cm space grid of the spatial coordinates which was calibrated in the parts of architectural/structural discontinuity.

The intermediate parts, more or less linear, are documented with flexible space grid and less resolution, due to multiple larger space grid overlap.

Team: Blersch, Neira, Quevedo, Avalos, Zuñiga
Partecipation of the 10th Fire Department of the Bomberos de Valparaíso and the Carabineros de Chile

Equipment: no. 1 Leica Geosystems HDS 3000 ScanStation 1 & accessories
no. 3 notebooks & accessories
no. 1 Trimble Total Station & accessories

b) Survey coverage:

<u>Inside:</u>	Central hall	<u>Outside:</u>	Façade
	Both side halls		Right side wall
	Choir		Left side wall
	Storage room left		Bell tower
	Sacristy (two rooms) right		Pinnacle of the choir (partially)
	Entrance		Left pitch
	Balcony: central and side halls		Right pitch (partially)
			Urban context (partially)

c) Data processing:

In order to process a final point cloud model the following operations have been applied on the total of 22 single point clouds (ScanWorlds) and the topographical input data:

Preparation for ScanWorld registering:

- target accuracy check
- sub-merging
- data optimizing
- point cloud selection for morphological registering
- target labelling

- Data conversion of topographic data output into Leica Geosystems Cyclone 5.7 import txt-format and target-id renaming

ScanWorld registering:

- registering by coincident vertex - vertex labelled constraints
- registering by coincident vertex - vertex automatic unlabelled constraints
- registering by coincident vertex - vertex manual constraints

- registering by cloud/mesh - cloud/mesh constraints
- manual constraint evaluation
- partial and final global registration freezing

Point Cloud model:

- Model Space creation
- Point cloud sub-division on logical layers
- Cleaning
- Filtering
- Processing of a User defined Coordinate System (UCS)
- Processing of default cutplanes.

d) Final Point Cloud Model:

No. ScanWorlds:	24
No. Point Clouds:	196
No. Vertices:	165
No. Points:	74.6 mio

File size (*.imp):	Full Matrix	1.25 GB
	Light	520 MB

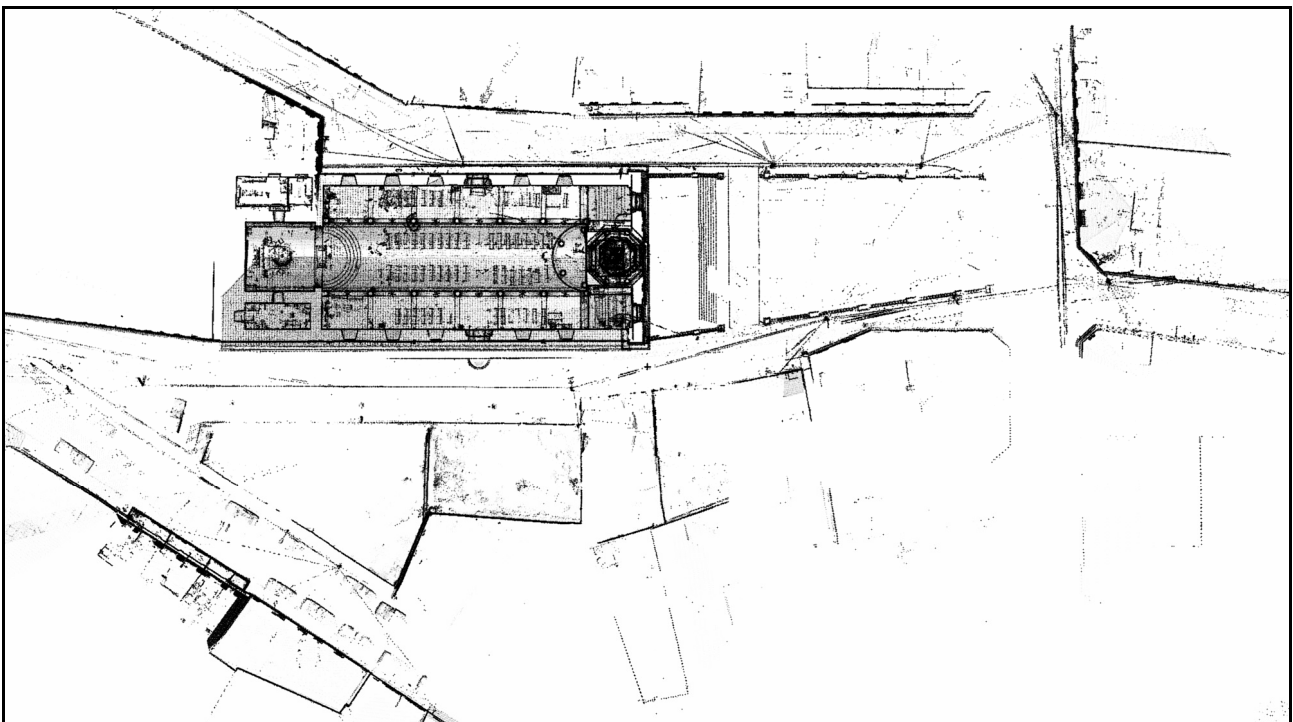


Figura 1: Point Cloud Model - Iglesia La Matriz – in plan

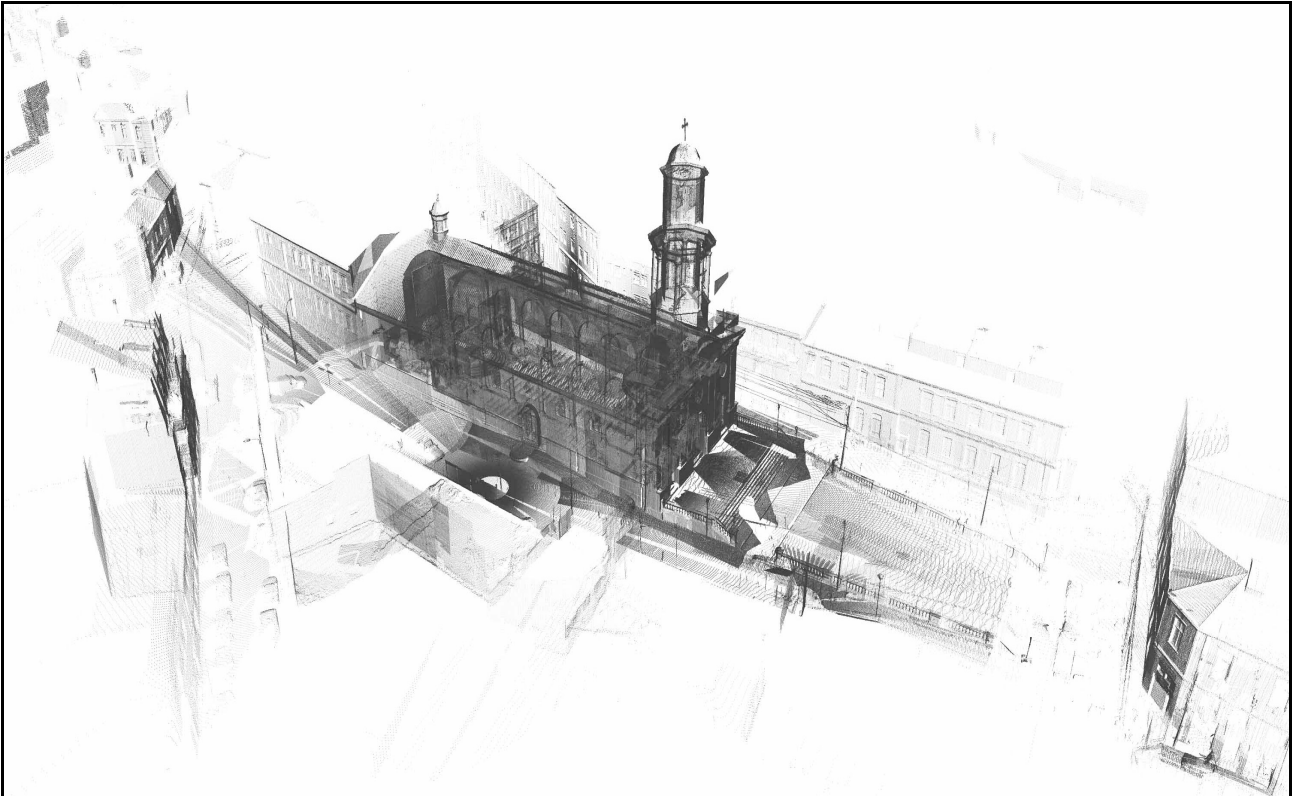


Figura 2: Point Cloud Model - Iglesia La Matriz – perspective view from above



Figura 3: Point Cloud Model - Iglesia La Matriz – perspective view from the square

1.2 Digital survey by means of 3D HDS laser scanner based on “time-of-flight” technology of the **“Iglesia San Francisco”** situated on the Cerro Barón area of the municipality of Valparaíso, Chile.

a) Field operations:

Laser scanning survey: November 07-09 & 12-13, 2007 by DIAPReM (with Geocom)

The survey was optimized for the metric documentation of the architectural and structural elements in the surface of the building by a resolution of a 2 x 2 cm space grid of the spatial coordinates which was calibrated in the parts of architectural/structural discontinuity, with special focus on the façade and the bell tower.

The intermediate parts, more or less linear, are documented with flexible space grid and less resolution, due to multiple larger space grid overlap.

Team: Blersch, Neira, Quevedo, Avalos, Zuñiga
Participation of the 14th Fire Department of the Bomberos de Valparaíso and the Carabineros de Chile

Equipment: no. 1 Leica Geosystems HDS 3000 ScanStation 1 & accessories
no. 3 notebooks & accessories

b) Survey coverage:

<u>Inside:</u>	Central hall	<u>Outside:</u>	Porch
	Both side halls		Façade
	Choir		Right side wall (partially)
	Entrance		Left side wall (partially)
	Balcony: central and side halls		Cloister (partially)
	Bell tower: side attics		Bell tower
	Bell tower: entrance room and staircase		Left pitch
	Bell tower: bell room		Right pitch (partially)
	Bell tower: clock room		Urban context (partially)

c) Data processing:

In order to process a final point cloud model the following operations have been applied on the total of 27 single point clouds (ScanWorlds):

Preparation for ScanWorld registering:

- target accuracy check
- sub-merging
- data optimizing
- point cloud selection for morphological registering

ScanWorld registering:

- registering by coincident vertex - vertex automatic unlabelled constraints
- registering by coincident vertex - vertex manual constraints
- registering by cloud/mesh - cloud/mesh constraints
- manual constraint evaluation
- partial and final global registration freezing

Point Cloud model:

- Model Space creation
- Point cloud sub-division on logical layers
- Cleaning
- Filtering
- Processing of a User defined Coordinate System (UCS)

- Processing of default cutplanes.

d) Final Point Cloud Model:

No. ScanWorlds: 27
No. Point Clouds: 180
No. Vertices: 170
No. Points: 159.6 mio

File size (*.imp):	Full Matrix	2.30 GB
	Light	1.02 GB

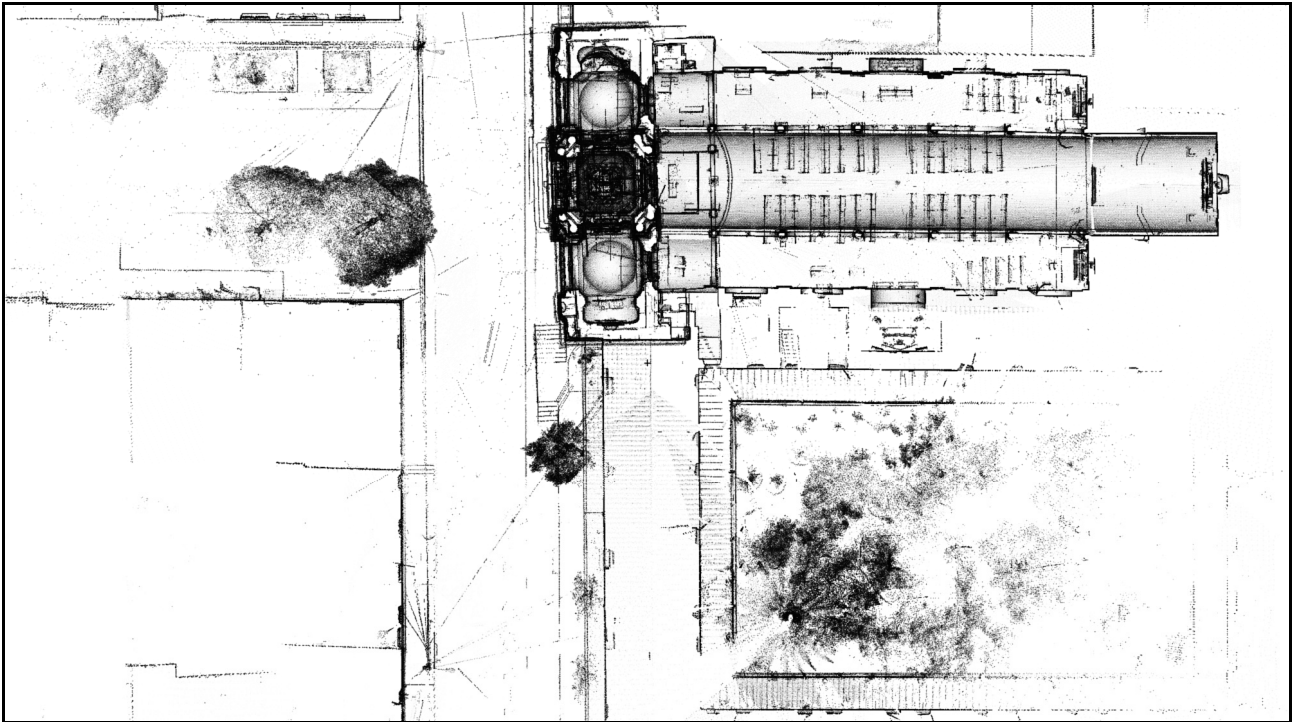


Figura 4: Point Cloud Model - Iglesia San Francisco – in plan

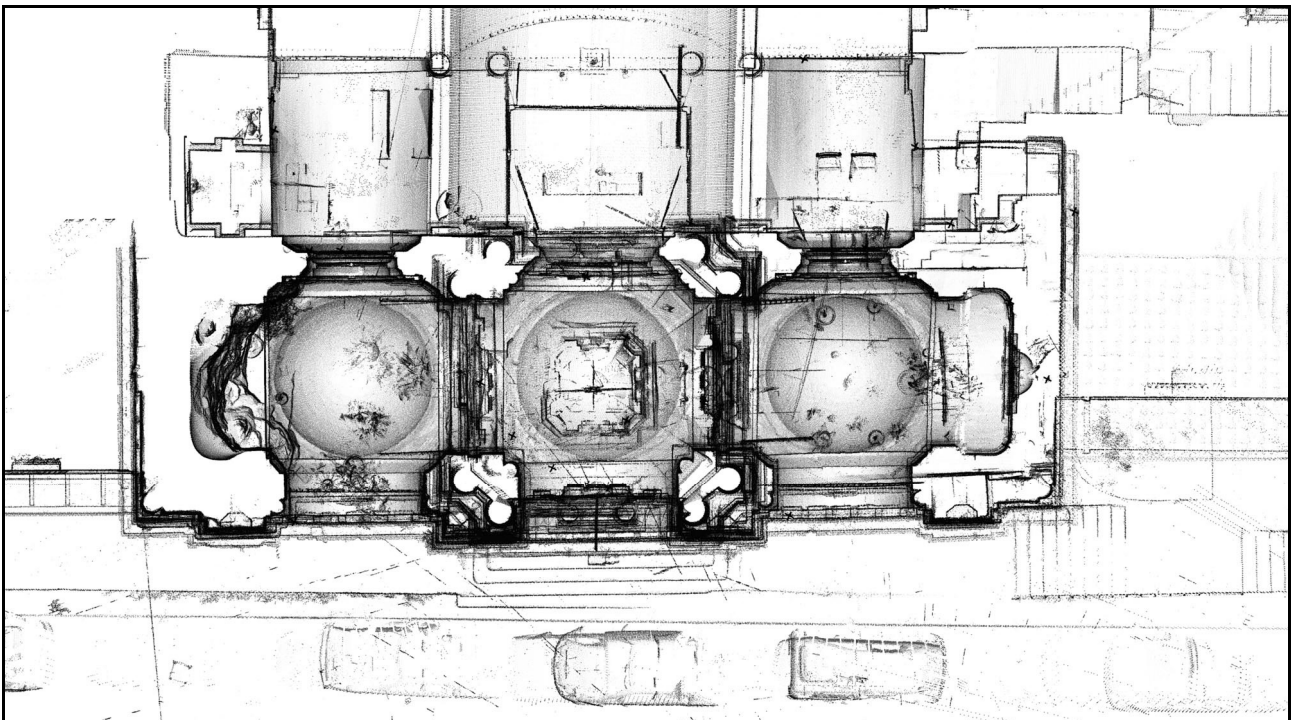


Figura 5: Point Cloud Model - Iglesia San Francisco – detail of the porch in plan



Figura 6: Point Cloud Model - Iglesia San Francisco – perspective view

1.3 Digital survey by means of 3D HDS laser scanner based on “time-of-flight” technology of the **“Iglesia Hermanas de la Divina Providencia”** situated in the Barrio Almendrál area of the municipality of Valparaíso, Chile.

a) Field operations:

Laser scanning survey: November 09-13, 2007 by DIAPReM (with Geocom)

The survey was optimized for the metric documentation of the architectural and structural elements in the surface of the head-part of the building by a resolution of a 2 x 2 cm space grid of the spatial coordinates which was calibrated in the parts of architectural/structural discontinuity, with special focus on the cupola.

The intermediate parts are documented with flexible space grid and less resolution, due to multiple larger space grid overlap.

Team: Blersch, Neira, Quevedo, Avalos, Zuñiga
Partecipation of the Carabineros de Chile

Equipment: no. 1 Leica Geosystems HDS 3000 ScanStation 1 & accessories
no. 3 notebooks & accessories

b) Survey coverage:

<u>Inside:</u>	Central hall (partially)	<u>Outside:</u>	Cupola
	Crossing		Façade
	Apse		Right side wall (partially)
	Cupola: drum		Left side wall (partially)
	Cupola: sub-drum and connection to the attic of the hall (partially)		Court
	Cupola: inner vault		Urban context (partially)
	Cupola: sub-space between the two shells		
	Cupola: lantern-substitution		

c) Data processing:

In order to process a final point cloud model the following operations have been applied on the total of 17 single point clouds (ScanWorlds) and 1 target sub-set scan:

Preparation for ScanWorld registering:

- target accuracy check
- sub-merging
- data optimizing
- point cloud selection for morphological registering

ScanWorld registering:

- registering by coincident vertex - vertex automatic unlabelled constraints
- registering by coincident vertex - vertex manual constraints
- registering by cloud/mesh - cloud/mesh constraints
- manual constraint evaluation
- partial and final global registration freezing

Point Cloud model:

- Model Space creation
- Point cloud sub-division on logical layers
- Cleaning
- Filtering
- Processing of a User defined Coordinate System (UCS)

- Processing of default cutplanes.

d) Final Point Cloud Model:

No. ScanWorlds: 18
No. Point Clouds: 146
No. Vertices: 131
No. Points: 66.3 mio

File size (*.imp):	Full Matrix	1.3 GB
	Light	550 MB

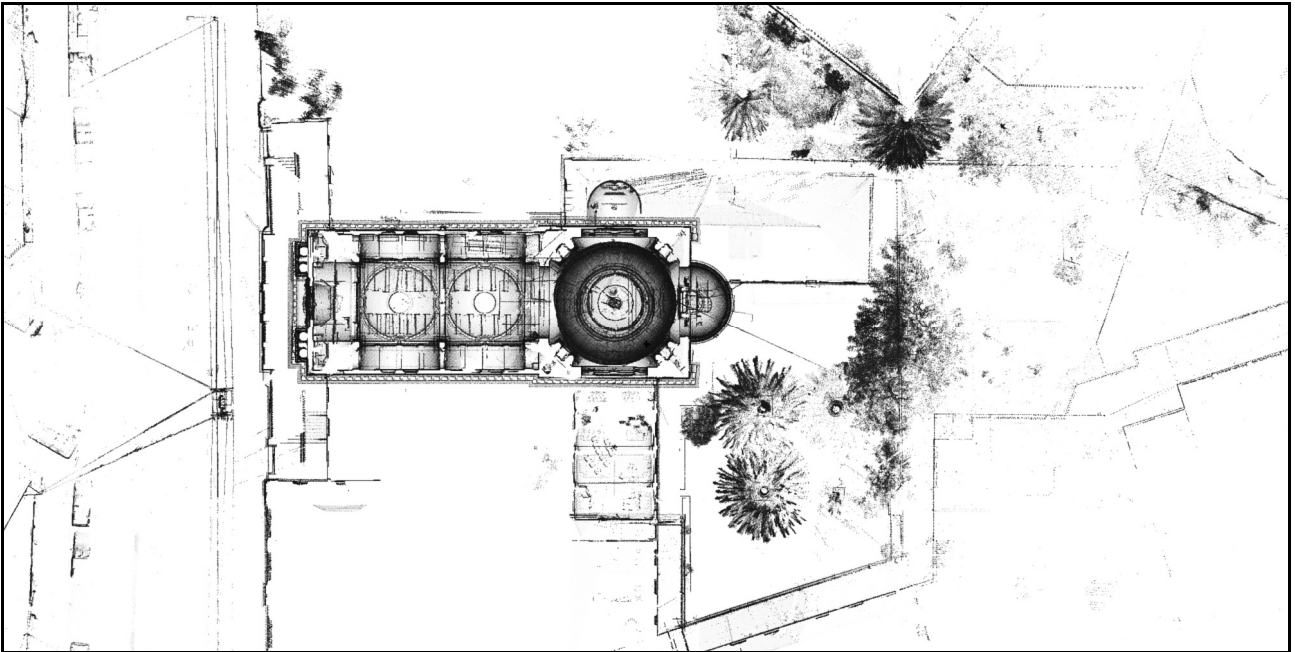


Figura 7: Point Cloud Model - Iglesia Hermanas de la Divina Providencia – in plan

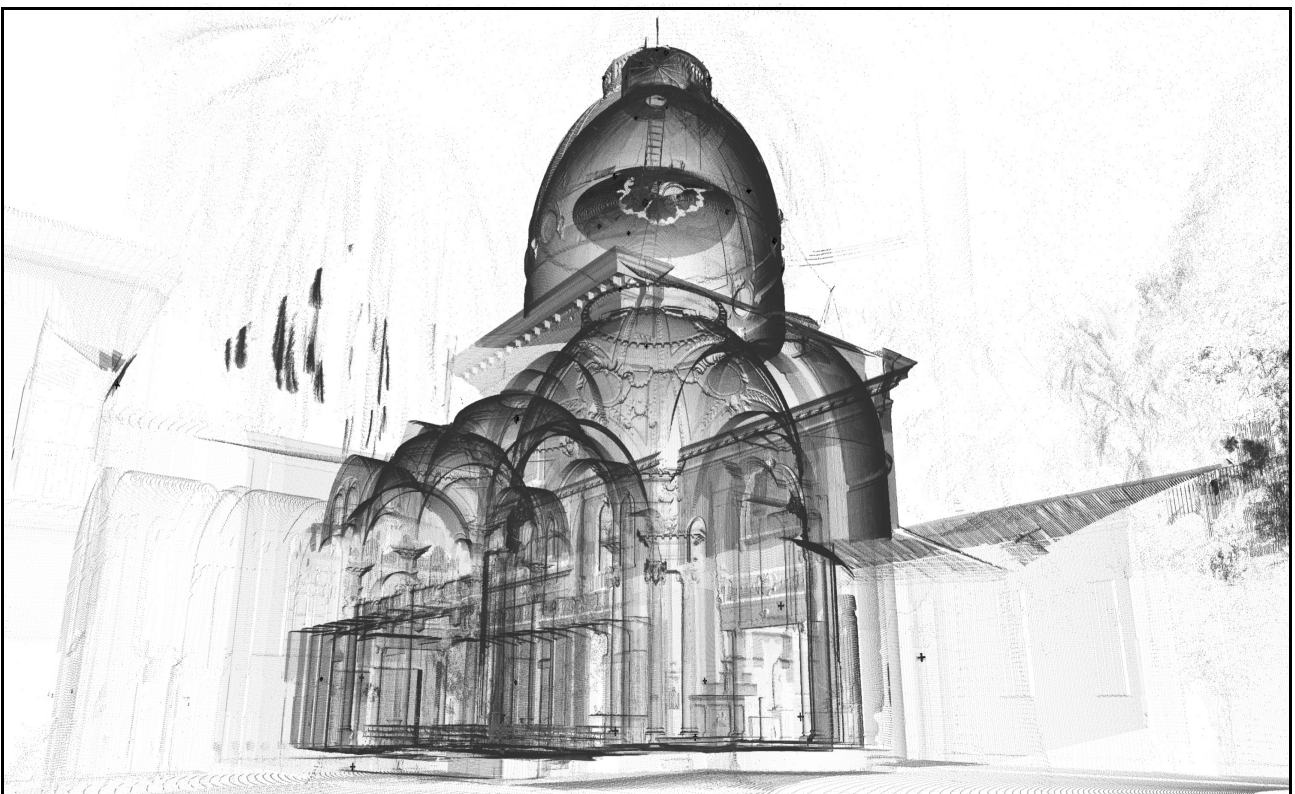


Figura 8: Point Cloud Model - Iglesia Hermanas de la Divina Providencia – perspective view from the court

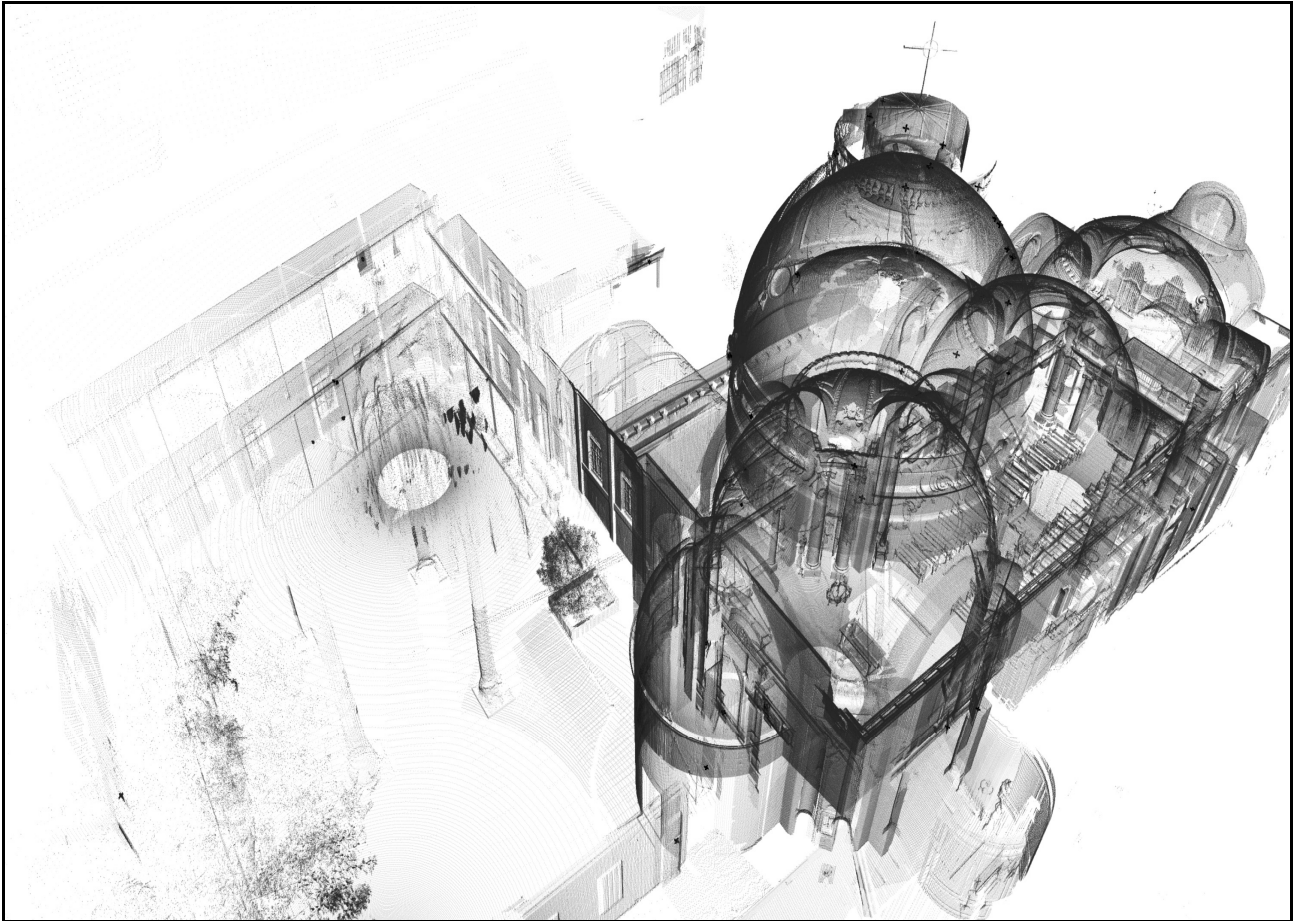


Figura 9: Point Cloud Model - Iglesia Hermanas de la Divina Providencia – perspective view from above

NOTE: *The omitted entries in some field work protocols are due to the loss of paper notes caused by a sudden strong wind during the works on the roof of the Iglesia San Francisco del Barón on November 13, 2007.
The lacking entries have been integrated/retrieved where possible.*

NOTE: *The integrated topographic survey, as agreed by the partners to be organized and executed by ENEA staff, during the technical meeting between DIAPReM and ENEA partners at the Department of Architecture, University of Ferrara, Via Quartieri 8, 44100 Ferrara, Italy, on September 20, 2007, was not fulfilled.
The topographical survey of the target set at La Matriz church, was executed on November 26, 2008, as a courtesy by Geocom SA, Santiago de Chile.*

2. APPENDIX

APPENDIX I/a

SURVEY DATA SHEETS:

IGLESIA LA MATRIZ DEL BARRIO PUERTO



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.

CFR

**Consorzio
Ferrara
Ricerche**



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

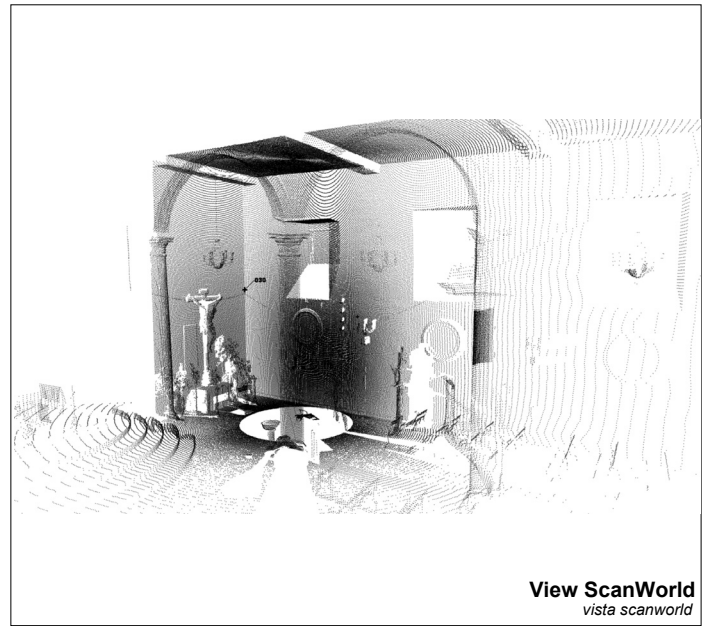
Date 05/11/2007
data

Time 09.30 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071105
progetto

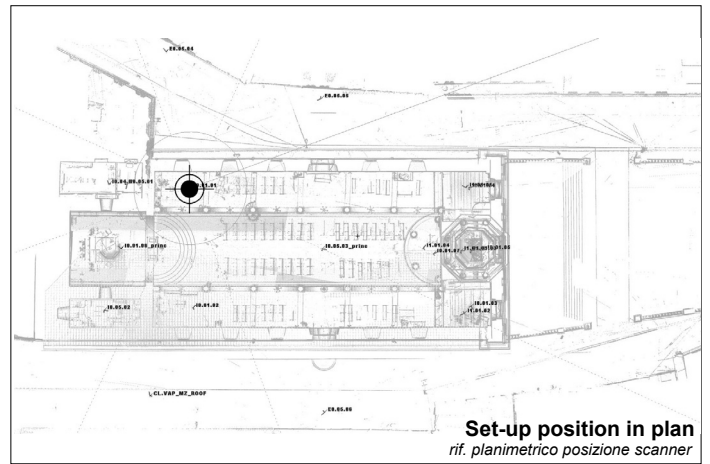
ScanWorld 10.01.01
scanworld

Total no. scans 2
totale scansioni

Total no. points 353.698
totale punti

Total no. targets 5
totale target

Scanner position
posizione scanner



Set-up position in plan
ref. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	942	x 353	332.526	0	360	360	-45	90	135
Scan 2	2 x 2 cm	14 m	158	x 134	21.172	15	28	13	5	16	11
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

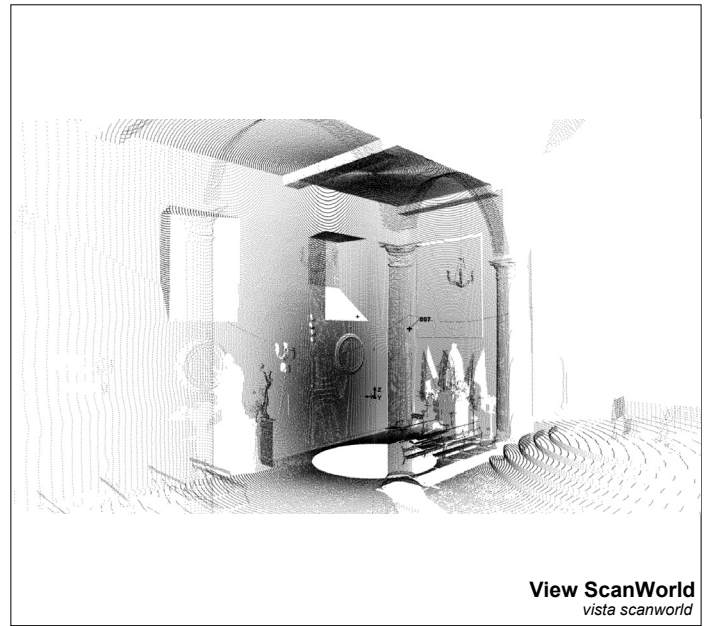
Date 05/11/2007
data

Time 11.00 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071105
progetto

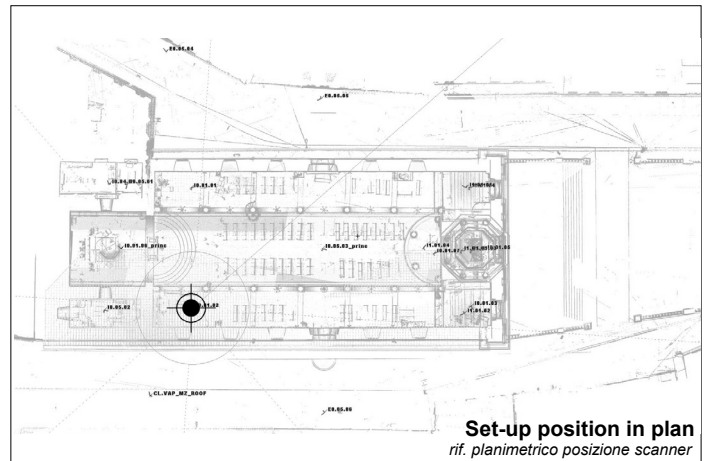
ScanWorld 10.01.02
scanworld

Total no. scans 1
totale scansioni

Total no. points 332.526
totale punti

Total no. targets 6
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	942	x 353	332.526	0	360	360	-45	90	135
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

Date 05/11/2007
data

Time 12.20 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071105
progetto

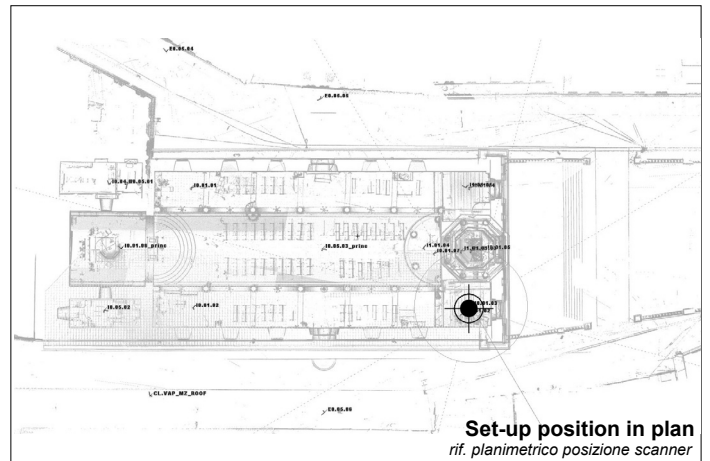
ScanWorld 10.01.03
scanworld

Total no. scans 3
totale scansioni

Total no. points 480.033
totale punti

Total no. targets
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	942	x 353	332.526	0	360	360	-45	90	135
Scan 5	2 x 2 cm	8 m	111	x 153	16.983	200	216	16	-13	9	22
Scan 6	2 x 2 cm	8 m	298	x 438	130.524	285	328	43	-37	26	63
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

Date 05/11/2007
data

Time 13.20 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071105
progetto

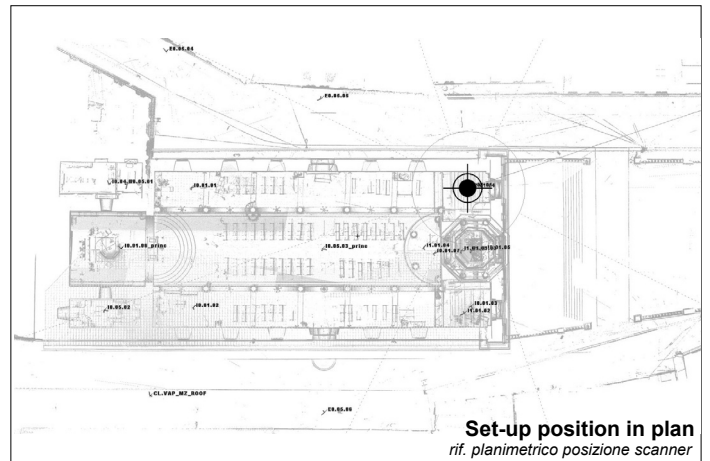
ScanWorld 10.01.04
scanworld

Total no. scans 1
totale scansioni

Total no. points 332.526
totale punti

Total no. targets 11
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	942	x 353	332.526	0	360	360	-45	90	135
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

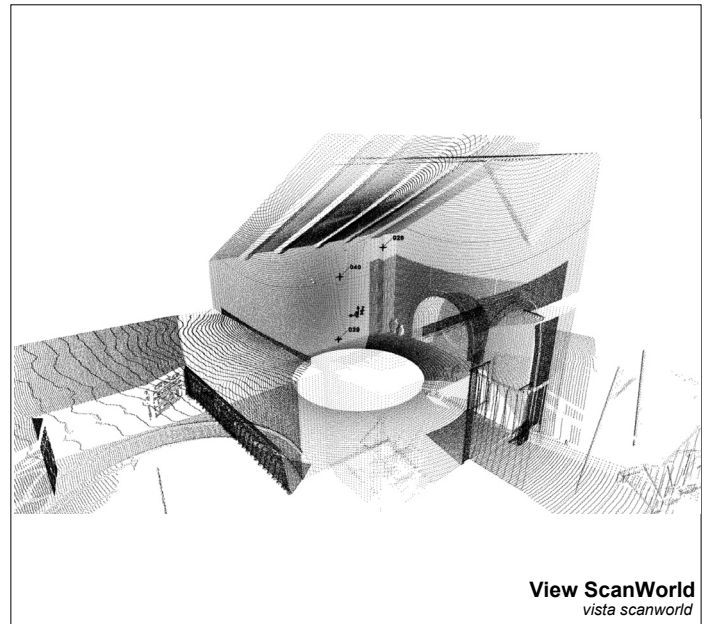
Date 05/11/2007
data

Time 14.40 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071105
progetto

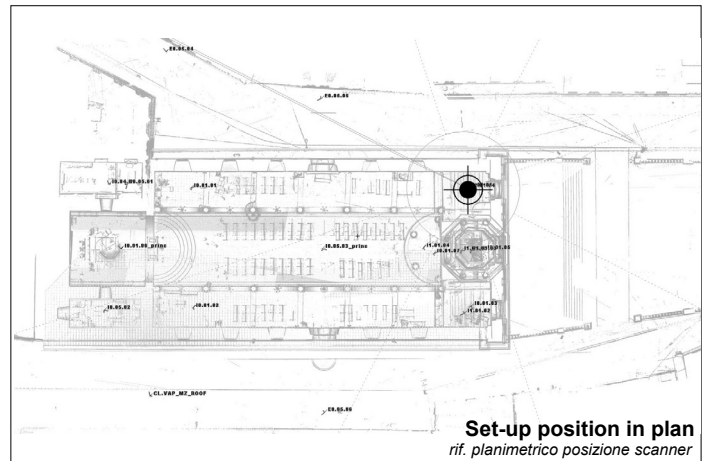
ScanWorld I1.01.01
scanworld

Total no. scans 3
totale scansioni

Total no. points 255.221
totale punti

Total no. targets 7
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	2 m	614	x 235	144.290	0	360	360	-45	90	135
Scan 2	2 x 2 cm	7 m	238	x 317	75.446	-215	254	469	-30	22	52
Scan 3	2 x 2 cm	3 m	235	x 151	35.485	110	200	90	-45	15	60
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

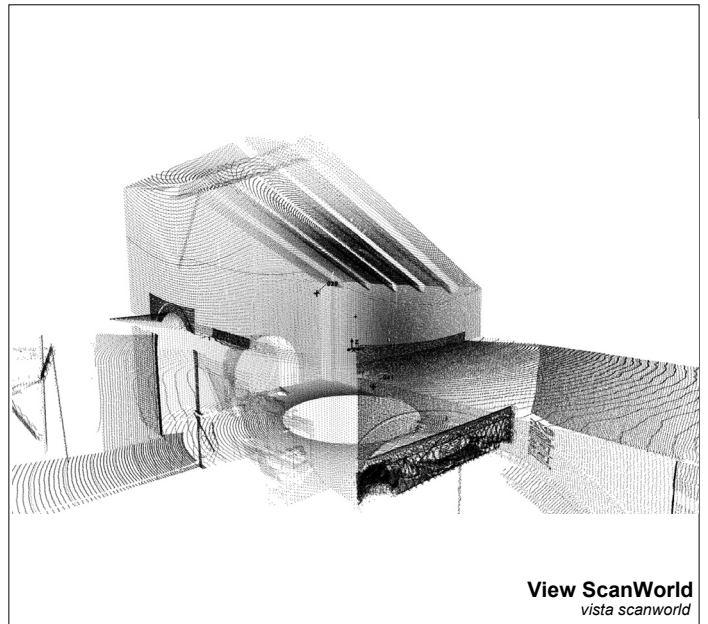
Date 05/11/2007
data

Time 15.45 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071105
progetto

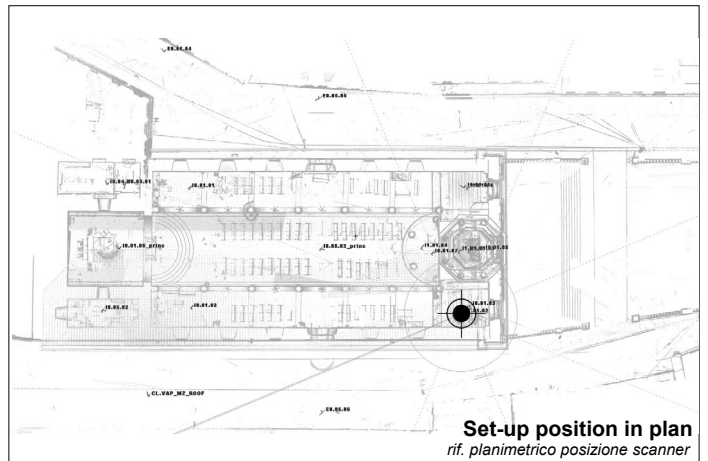
ScanWorld I1.01.02
scanworld

Total no. scans 3
totale scansioni

Total no. points 638.754
totale punti

Total no. targets 6
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	2 m	626	x 234	146.484	0	360	360	-45	90	135
Scan 2	2 x 2 cm	7 m	184	x 253	46.552	107	137	30	-45	15	60
Scan 3	2 x 2 cm	15 m	806	x 553	445.718	359	61	62	-30	13	43
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani





IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

Date 05/11/2007
data

Time 16.30 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071105
progetto

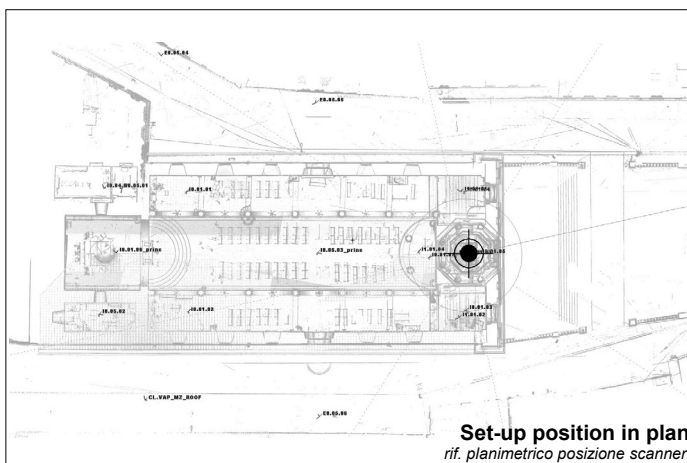
ScanWorld I1.01.03
scanworld

Total no. scans 4
totale scansioni

Total no. points 526.479
totale punti

Total no. targets 8
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>		Sub-total points <i>sub-totale punti</i>	Scan Field-of-View <i>campo di presa scansione</i>			V - Window <i>apertura verticale</i>		
			X points <i>punti in x</i>	Y points <i>punti in y</i>		Hz - Window <i>apertura orizzontale</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>	
Scan 1	2 x 2 cm	2 m	624	x 233	145.392	0	360	360	-45	90	135
Scan 2	2 x 2 cm	7 m	2.186	x 120	262.320	0	360	360	70	90	20
Scan 3	2 x 2 cm	2 m	101	x 67	6.767	358	57	59	28	67	39
Scan 4	2 x 2 cm	17 m	250	x 448	112.000	185	202	17	-30	0	30
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

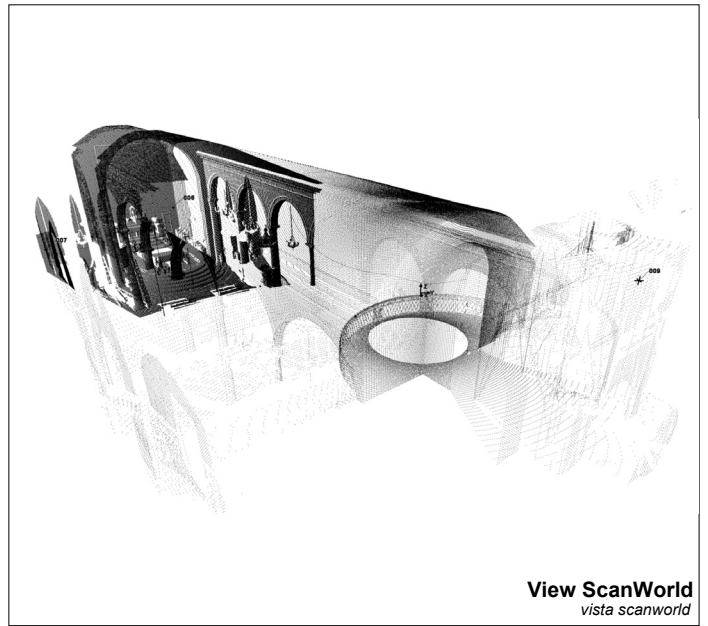
Date 05/11/2007
data

Time 17.30 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071105
progetto

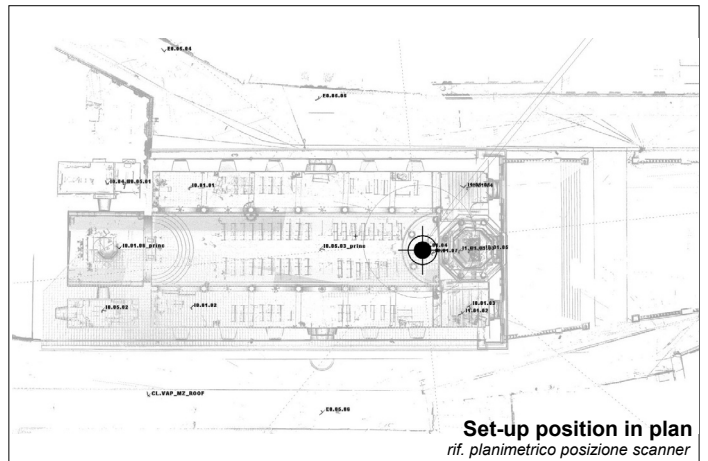
ScanWorld I1.01.04
scanworld

Total no. scans 3
totale scansioni

Total no. points 363.455
totale punti

Total no. targets 5
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	2 m	622	x 230	143.060	0	360	360	-45	90	135
Scan 4	2 x 2 cm	17 m	441	x 435	191.835	216	248	32	-19	10	29
Scan 5	2 x 2 cm	17 m	204	x 140	28.560	204	218	14	-10	0	10
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

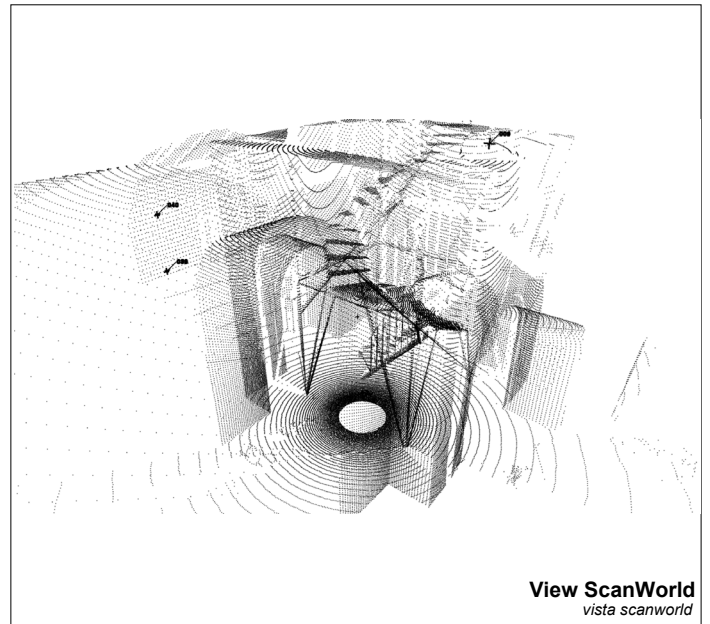
Date 05/11/2007
data

Time 18.25 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071105
progetto

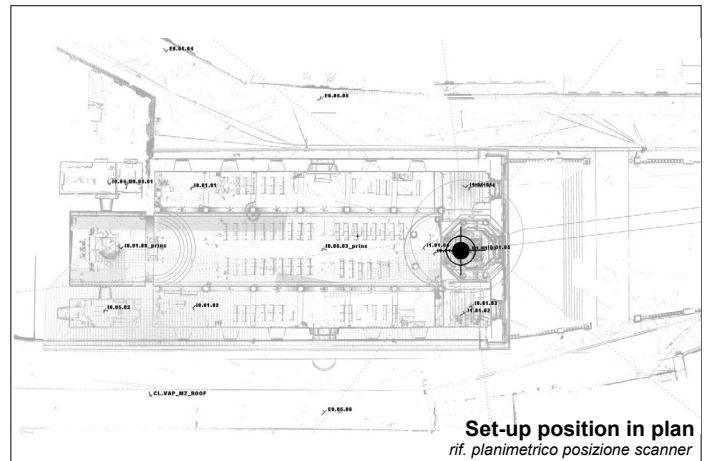
ScanWorld I1.01.05
scanworld

Total no. scans 1
totale scansioni

Total no. points 86.508
totale punti

Total no. targets 5
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	2 m	534	x 162	86.508	0	360	360	-45	90	135
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

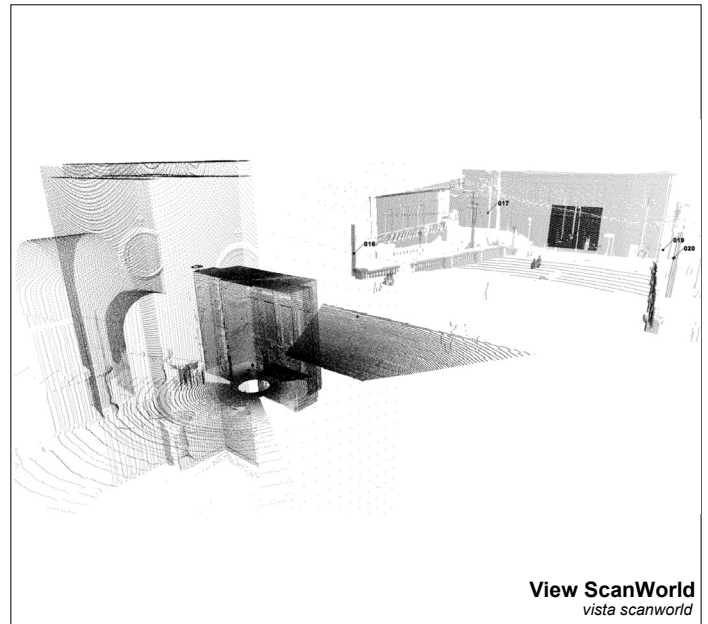
Date 05/11/2007
data

Time 19.20 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071105
progetto

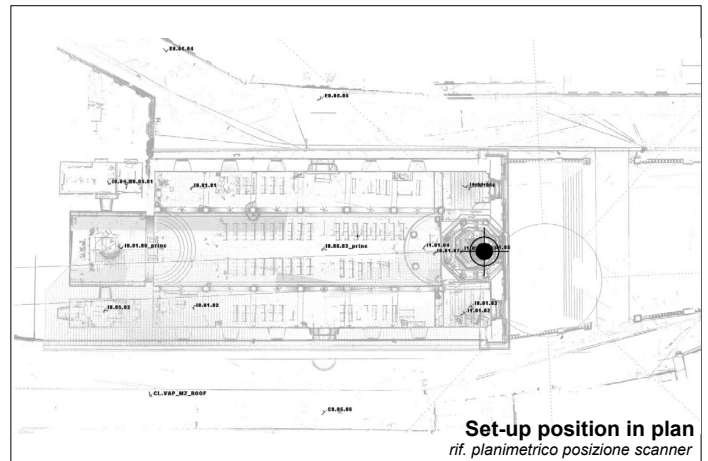
ScanWorld 10.01.05
scanworld

Total no. scans 5
totale scansioni

Total no. points 411.845
totale punti

Total no. targets 8
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	2 m	628	x 235	147.580	0	360	360	-45	90	135
Scan 3		m	169	x 77	13.013						
Scan 5		m	599	x 299	179.101						
Scan 6		m	117	x 104	12.168						
Scan 7		m	287	x 209	59.983						
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani





IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

Date 05/11/2007
data

Time 19.50 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071105
progetto

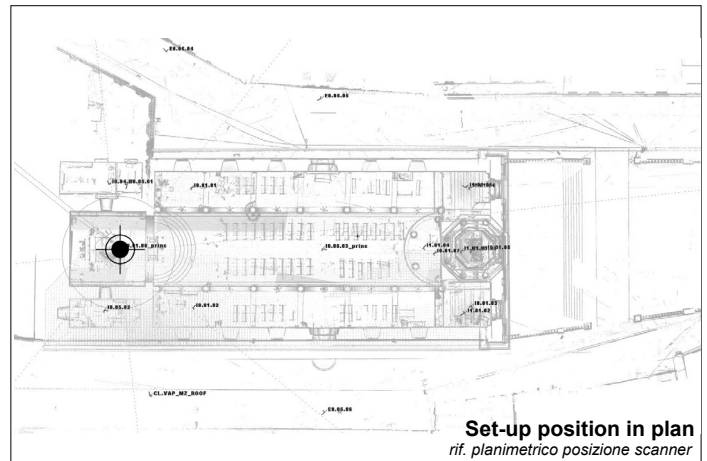
ScanWorld 10.01.06_princ
scanworld

Total no. scans 2
totale scansioni

Total no. points 3.004.174
totale punti

Total no. targets 9
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>	Scan Field-of-View <i>campo di presa scansione</i>								
				X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>	V - Window <i>apertura verticale</i>				
							Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	9 m	2.812 x 1.054	2.963.848	0	360	360	-45	90	135		
Scan 2		m	143 x 282	40.326								
		m	X									
		m	X									
		m	X									
		m	X									
		m	X									
		m	X									
		m	X									

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

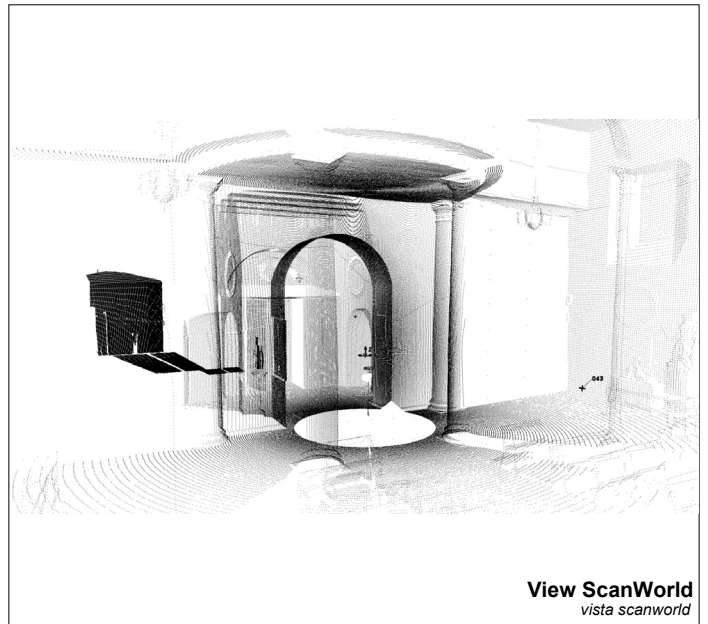
Date 05/11/2007
data

Time 22.00 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071105
progetto

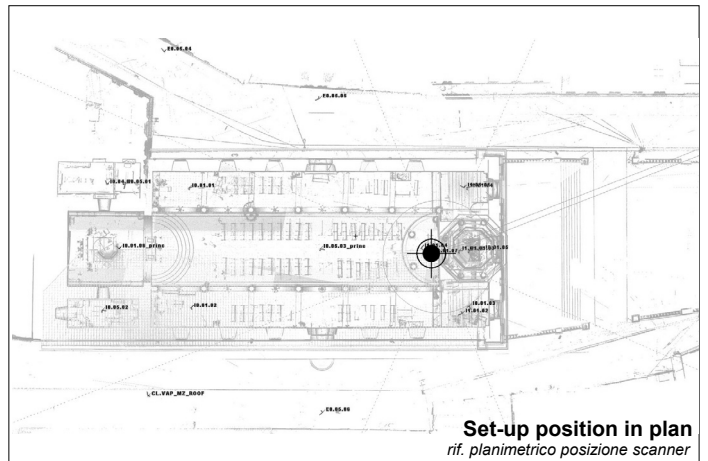
ScanWorld 10.01.07
scanworld

Total no. scans 2
totale scansioni

Total no. points 390.666
totale punti

Total no. targets 6
totale target

Scanner position
posizione scanner



Set-up position in plan
ref. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	942	x 353	332.526	0	360	360	-45	90	135
Scan 5		m	180	x 323	58.140						
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

Date 05/11/2007
data

Time 23.20 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071105
progetto

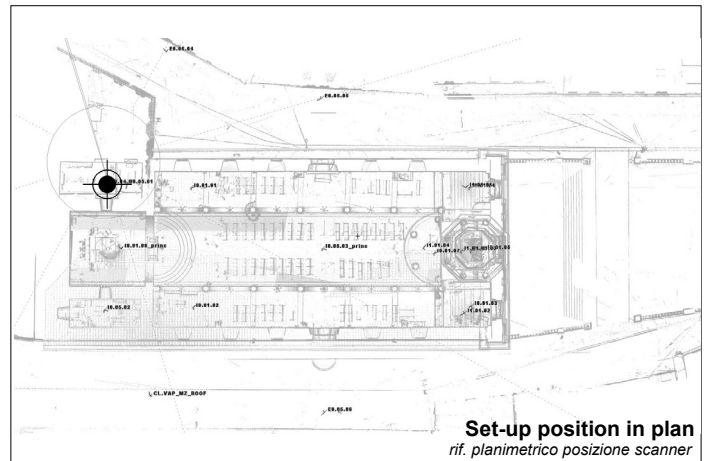
ScanWorld 10.04.01
scanworld

Total no. scans 1
totale scansioni

Total no. points 332.526
totale punti

Total no. targets 8
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	942	x 353	332.526	0	360	360	-45	90	135
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

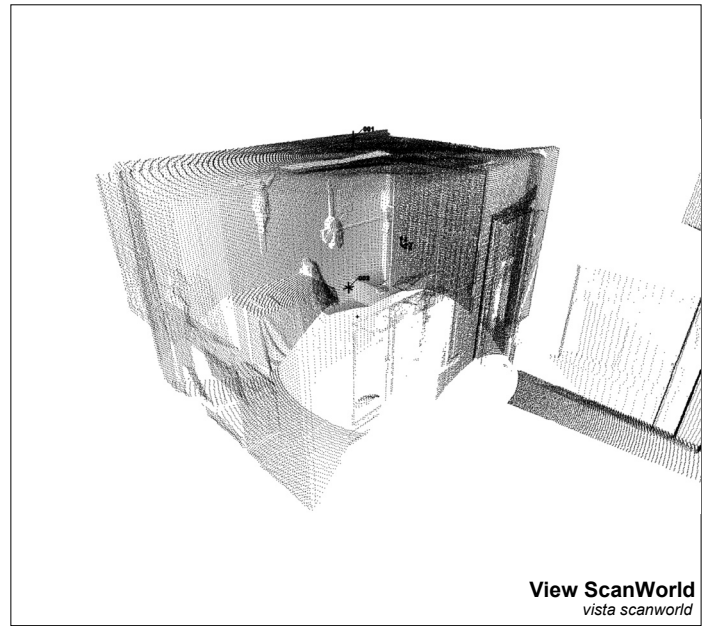
Date 06/11/2007
data

Time 09.30 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071106
progetto

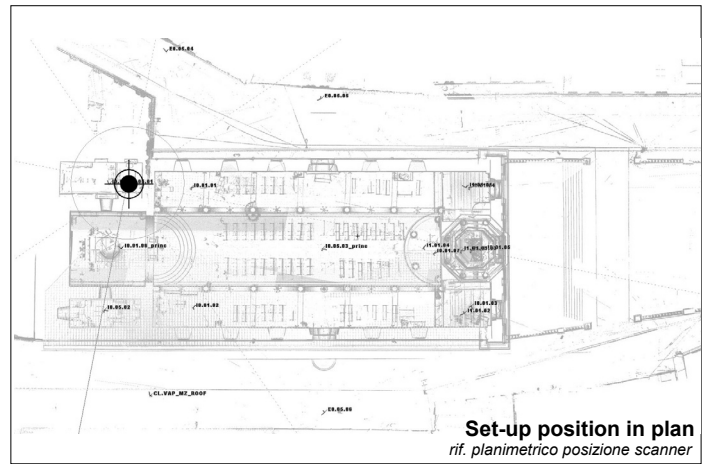
ScanWorld 10.05.01
scanworld

Total no. scans 2
totale scansioni

Total no. points 199.390
totale punti

Total no. targets 4
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	2 m	628	x 235	147.580	0	360	360	-45	90	135
Scan 2	2 x 2 cm	5 m	165	x 314	51.810	40	78	38	-45	27	72
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

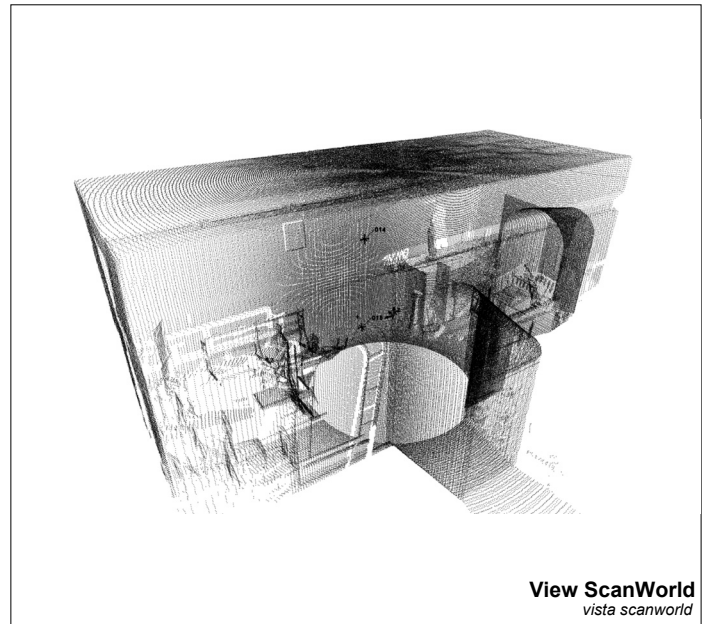
Date 06/11/2007
data

Time 10.45 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071106
progetto

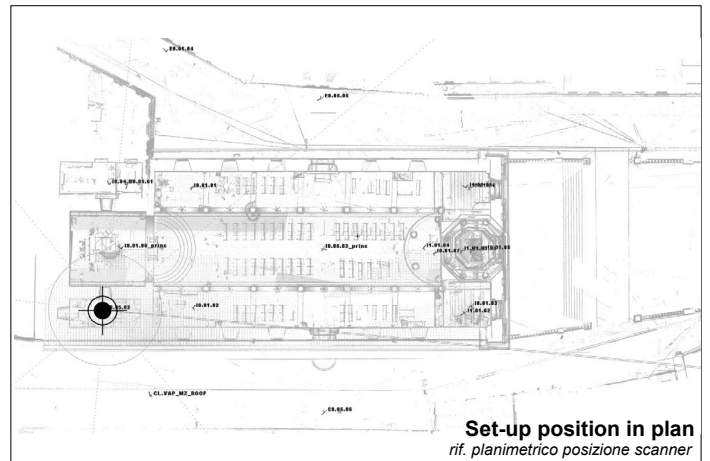
ScanWorld 10.05.02
scanworld

Total no. scans 4
totale scansioni

Total no. points 391.016
totale punti

Total no. targets 4
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	939	x 352	330.528	0	360	360	-45	90	135
Scan 2	2 x 2 cm	5 m	111	x 172	19.092	157	182	25	-22	17	39
Scan 3	2 x 2 cm	2 m	131	x 158	20.698	228	303	75	-45	46	91
Scan 4		m	131	x 158	20.698						
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

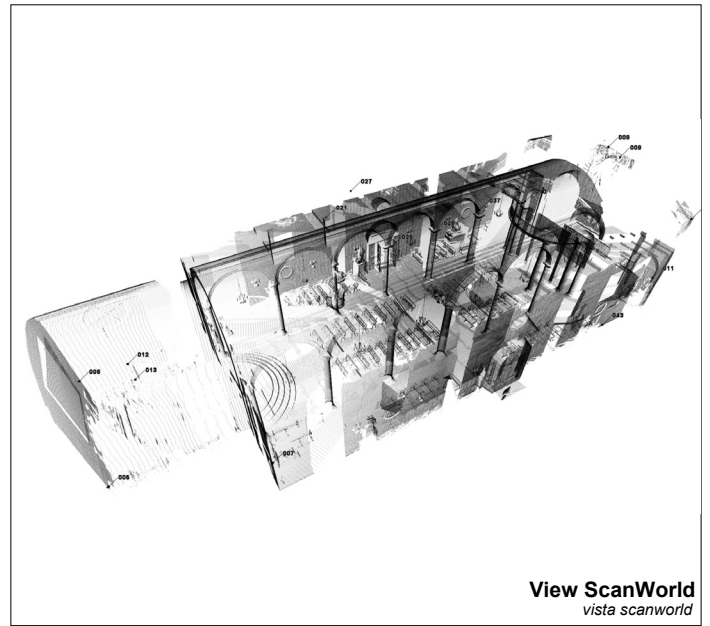
Date 06/11/2007
data

Time 12.30 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071106
progetto

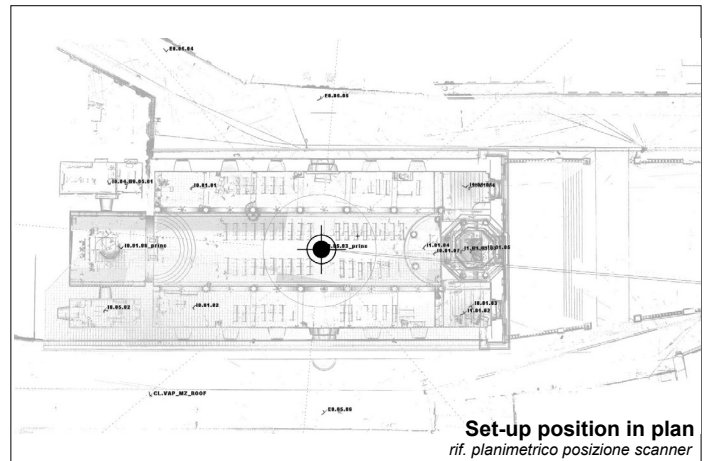
ScanWorld 10.05.03_princ
scanworld

Total no. scans 4
totale scansioni

Total no. points 5.434.525
totale punti

Total no. targets 16
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution High
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
0	360	360	-45	90	135

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan
scansione

Space Grid
maglia di acquisizione

Probe
distanza rif.

Point set
impostazione punti

Scan Field-of-View
campo di presa scansione

Scan	Space Grid	Probe	Point set		Sub-total points	Scan Field-of-View			V - Window		
			X points <i>punti in x</i>	Y points <i>punti in y</i>		Hz - Window <i>apertura orizzontale</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>	
Scan 2	2 x 2 cm	12 m	3.733	x 1.402	5.233.666	0	360	360	-45	90	135
Scan 1		m	133	x 755	100.415						
Scan 3		m	212	x 239	50.668						
Scan 4		m	204	x 244	49.776						
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

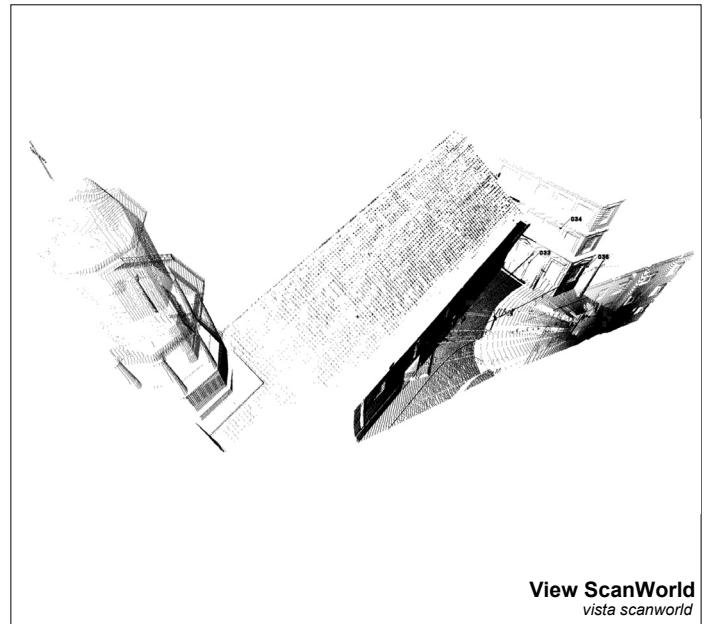
Date 06/11/2007
data

Time 15.30 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071106
progetto

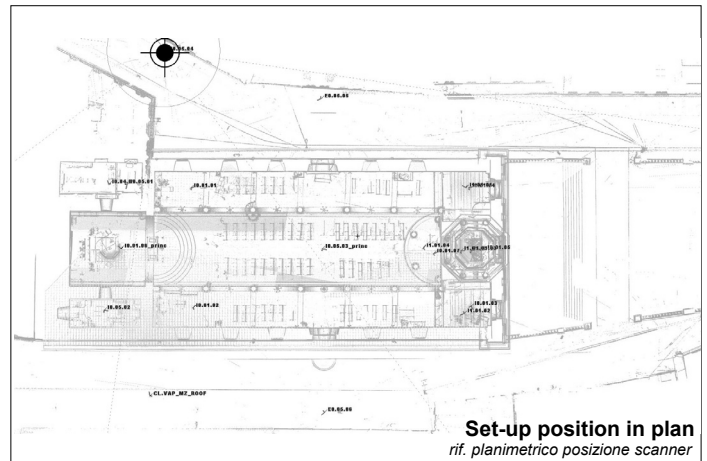
ScanWorld E0.05.04
scanworld

Total no. scans 5
totale scansioni

Total no. points 1.265.173
totale punti

Total no. targets 5
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	2 m	628	x 235	147.580	0	360	360	-45	90	135
Scan 2	2 x 2 cm	14 m	141	x 250	35.250	154	165	11	16	36	20
Scan 3	2 x 2 cm	17 m	917	x 189	173.313	165	224	59	18	30	12
Scan 4	2 x 2 cm	17 m	1.122	x 469	526.218	150	224	74	-12	18	30
Scan 6	2 x 2 cm	25 m	1.311	x 292	382.812	164	224	60	18	32	14
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

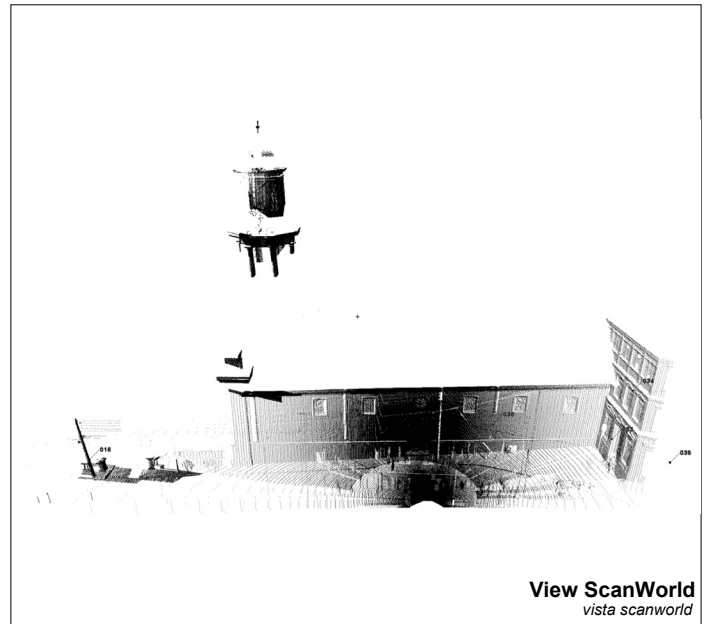
Date 06/11/2007
data

Time 16.55 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 071106
progetto

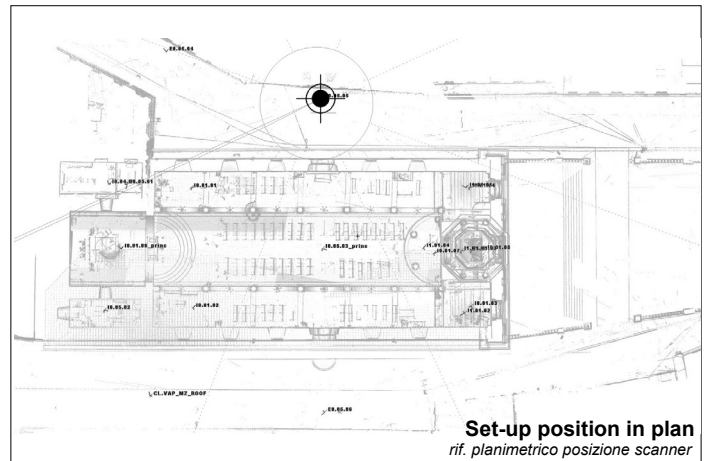
ScanWorld E0.05.05
scanworld

Total no. scans 6
totale scansioni

Total no. points 564.822
totale punti

Total no. targets
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	2 m	628	x 235	147.580	0	360	360	-45	90	135
Scan 3	2 x 2 cm	5 m	615	x 297	182.655	246	27	141	-18	50	68
Scan 4	2 x 2 cm	5 m	128	x 314	40.192	218	247	29	-19	53	72
Scan 5	2 x 2 cm	20 m	435	x 397	172.695	235	260	25	34	57	23
Scan 6	2 x 2 cm	5 m	91	x 116	10.556	263	304	41	-7	10	17
Scan 2		m	56	x 199	11.144						
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.

CFR

Consorzio
Ferrara
Ricerche



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

luogo

Object Iglesia La Matriz

oggetto

Date 06/11/2007

data

Time 18.40 h

orario

Scanner - ID no. Sc

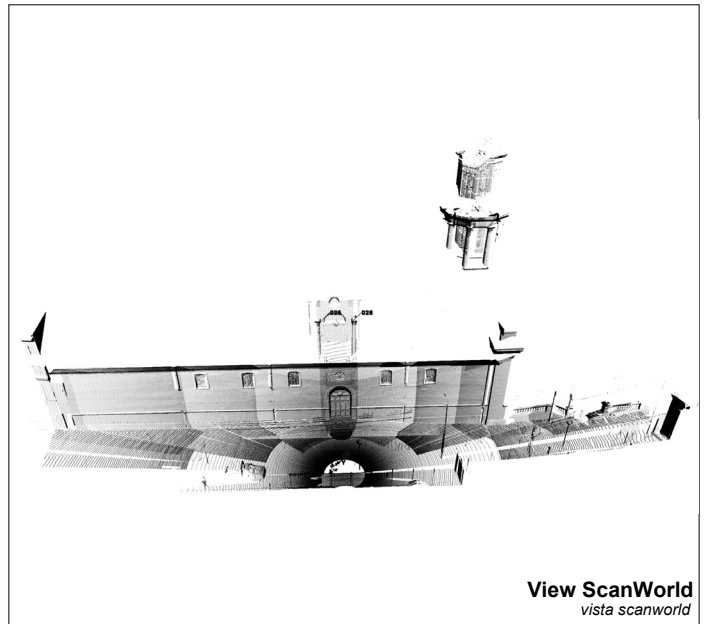
scanner - id

Scanner type Leica Geosystems
HDS 3000 ScanStation 1

modello scanner

Operator Blersch - Neira - Quevedo

operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.

nome database (.imp)*

Project 071106

progetto

ScanWorld E0.05.06

scanworld

Total no. scans 10

totale scansioni

Total no. points 1.429.416

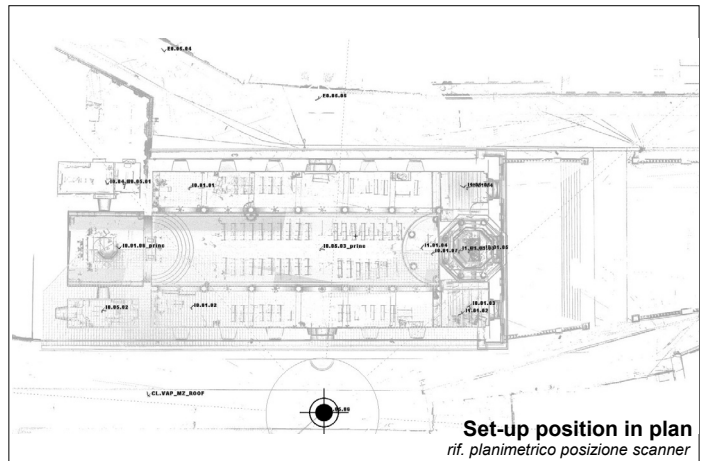
totale punti

Total no. targets 4

totale target

Scanner position

posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

risoluzione

Image Field-of-View

campo di presa immagine

Hz - Window

apertura orizzontale

V - Window

apertura verticale

Left [°] **Right [°]** **Delta [°]**

sinistra

destra

delta

Bottom [°] **Top [°]** **Delta [°]**

basso

alto

delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>		Sub-total points <i>sub-totale punti</i>	Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>		Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	2 m	615	x 213	130.995	0	360	360	-45	80	125
Scan 2	2 x 2 cm	9 m	230	x 447	102.810	115	145	30	-15	47	62
Scan 3	2 x 2 cm	80 m	278	x 208	57.824	122	126	4	10	13	3
Scan 4	2 x 2 cm	55 m	191	x 143	27.313	122	126	4	10	13	3
Scan 5	2 x 2 cm	110 m	477	x 286	136.422	135	140	5	10	13	3
Scan 6	2 x 2 cm	15 m	325	x 624	202.800	55	80	25	-13	35	48
Scan 7	2 x 2 cm	6 m	524	x 358	187.592	79	180	101	-21	48	69
Scan 8	2 x 2 cm	15 m	311	x 648	201.528	179	203	24	-16	34	50
Scan 11	2 x 2 cm	35 m	1.151	x 332	382.132	166	181	15	44	55	11
Scan 12	2 x 2 cm	35 m	330	x 332	109.560	192	203	11	17	28	11

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.

CFR

Consorzio
Ferrara
Ricerche



IDENTITY

IDENTITA'

Place
luogo VALPARAÍSO - CHILE

Object
oggetto Iglesia La Matriz

Date
data 07/11/2007

Time
orario 09.30 h

Scanner - ID
scanner - id no. Sc

Scanner type
modello scanner Leica Geosystems
HDS 3000 ScanStation 1

Operator
operatore Blersch - Neira - Quevedo



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp)
nome database (.imp)* IGLESIA_LA_MATRIZ.

Project
progetto 071107

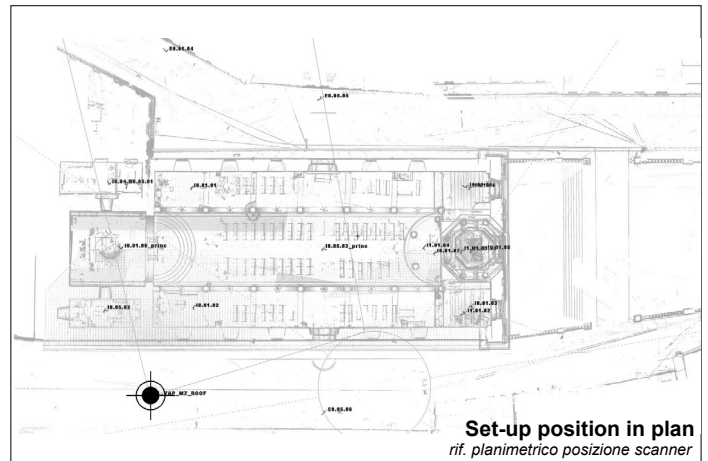
ScanWorld
scanworld CL.VAP_MZ_ROOF

Total no. scans
totale scansioni 10

Total no. points
totale punti 1.473.909

Total no. targets
totale target 12

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution High
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
0	360	360	-45	90	135

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan
scansione

Space Grid
maglia di acquisizione

Probe
distanza rif.

Point set
impostazione punti

Scan Field-of-View
campo di presa scansione

Scan	Space Grid	Probe	Point set		Sub-total points	Scan Field-of-View		
			X points <i>punti in x</i>	Y points <i>punti in y</i>		Hz - Window <i>apertura orizzontale</i>	V - Window <i>apertura verticale</i>	Delta [°] <i>delta</i>
Scan 1		m	834	x 451	376.134			
Scan 2		m	100	x 153	15.300			
Scan 3		m	307	x 471	144.597			
Scan 7		m	1.570	x 266	417.620			
Scan 8		m	231	x 129	29.799			
Scan 9		m	297	x 434	128.898			
Scan 10		m	331	x 547	181.057			
Scan 12		m	319	x 251	80.069			
Scan 19		m	379	x 265	100.435			
Scan 20		m	215	x 745	160.175			

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.



**Consorzio
Ferrara
Ricerche**



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

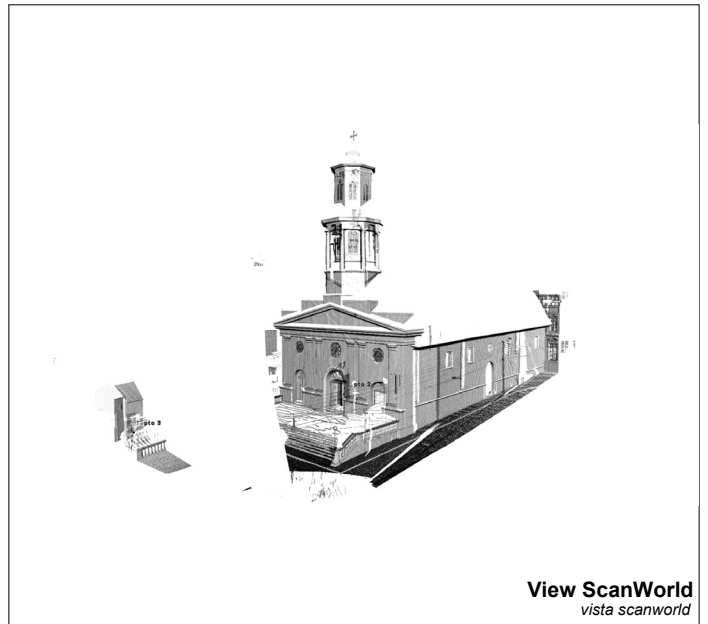
Date 14/02/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 070214
progetto

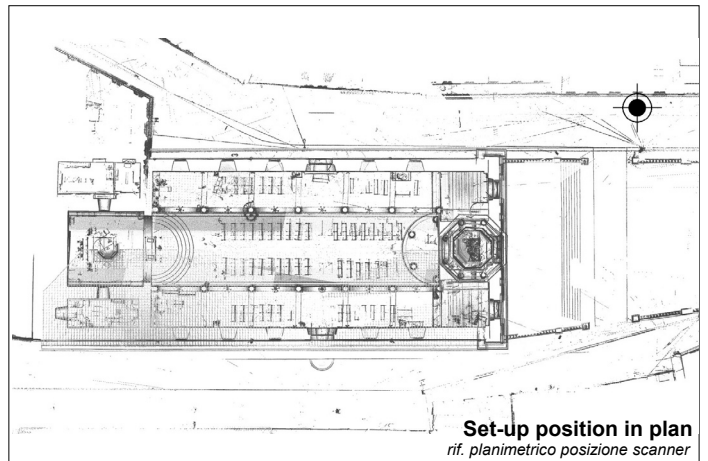
ScanWorld ScanWorld 1
scanworld

Total no. scans 8
totale scansioni

Total no. points 3.012.902
totale punti

Total no. targets 3
totale target

Scanner position operated by Geocom SA
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution High
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
0	360	360	-45	90	135

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan
scansione

Space Grid
maglia di acquisizione

Probe
distanza rif.

Point set
impostazione punti

Scan Field-of-View
campo di presa scansione

Scan	Space Grid	Probe	Point set		Sub-total points	Scan Field-of-View		
			X points <i>punti in x</i>	Y points <i>punti in y</i>		Hz - Window <i>apertura orizzontale</i>	V - Window <i>apertura verticale</i>	Delta [°] <i>delta</i>
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>
Scan 1		m	1.363	x 1.434	1.954.542			
Scan 2		m	427	x 736	314.272			
Scan 3		m	1.374	x 278	381.972			
Scan 4		m	1.050	x 156	163.800			
Scan 7		m	235	x 133	31.255			
Scan 8		m	324	x 246	79.704			
Scan 9		m	153	x 199	30.447			
Scan 10		m	210	x 271	56.910			
		m		x				
		m		x				

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.

CFR

Consorzio
Ferrara
Ricerche



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

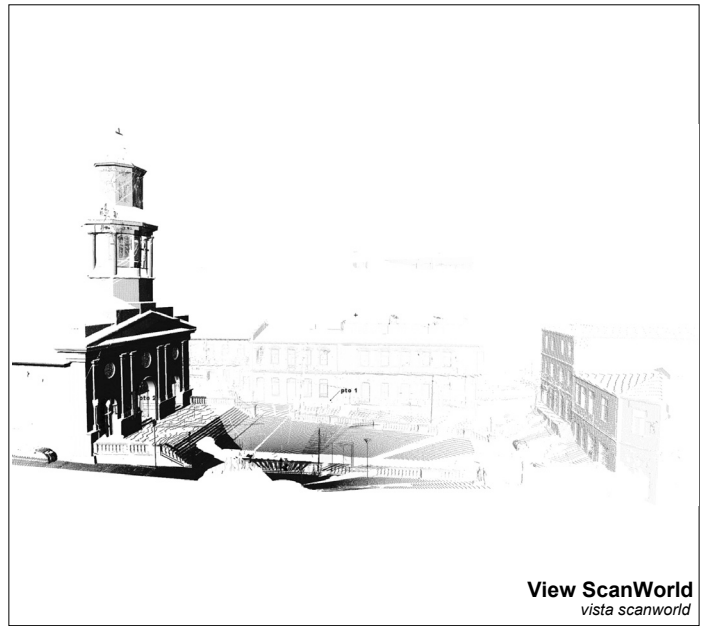
Date 14/02/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 070214
progetto

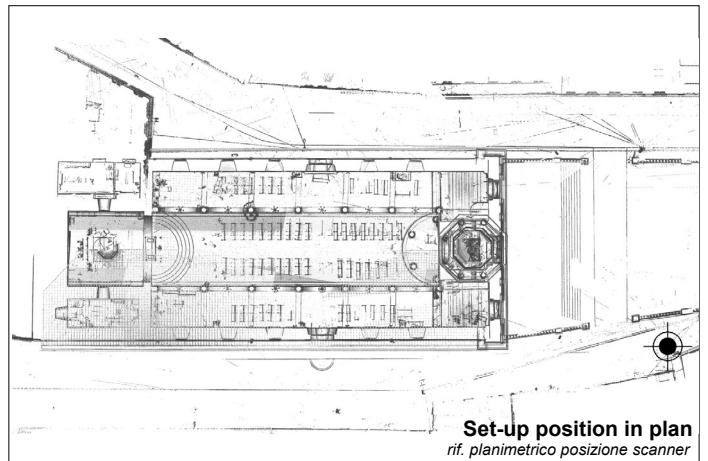
ScanWorld ScanWorld 2
scanworld

Total no. scans 4
totale scansioni

Total no. points 3.142.816
totale punti

Total no. targets 2
totale target

Scanner position operated by Geocom SA
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution High
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
0	360	360	-45	90	135

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan
scansione

Space Grid
maglia di acquisizione

Probe
distanza rif.

Point set
impostazione punti

Scan Field-of-View
campo di presa scansione

Scan	Space Grid	Probe	Point set		Sub-total points	Scan Field-of-View					
			X points <i>punti in x</i>	Y points <i>punti in y</i>		Hz - Window <i>apertura orizzontale</i>	V - Window <i>apertura verticale</i>				
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1		m	1.251	x 1.478	1.848.978						
Scan 2		m	887	x 808	716.696						
Scan 3		m	308	x 609	187.572						
Scan 9		m	478	x 815	389.570						
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia La Matriz
oggetto

Date 14/02/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGLESIA_LA_MATRIZ.
nome database (.imp)*

Project 070214
progetto

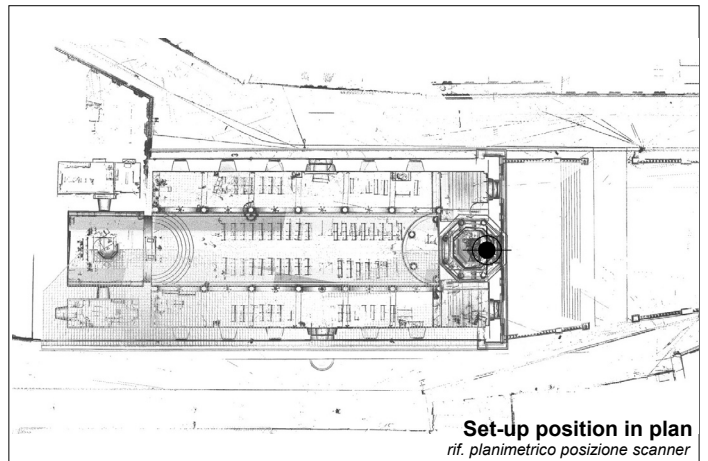
ScanWorld ScanWorld 3
scanworld

Total no. scans 6
totale scansioni

Total no. points 2.210.995
totale punti

Total no. targets 3
totale target

Scanner position operated by Geocom SA
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution High
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
0	360	360	-45	90	135

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan
scansione

Space Grid
maglia di acquisizione

Probe
distanza rif.

Point set
impostazione punti

Scan Field-of-View
campo di presa scansione

Scan	Space Grid	Probe	Point set		Sub-total points	Scan Field-of-View					
			X points <i>punti in x</i>	Y points <i>punti in y</i>		Hz - Window <i>apertura orizzontale</i>	V - Window <i>apertura verticale</i>				
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1		m	851	x 52	44.252						
Scan 2		m	660	x 818	539.880						
Scan 3		m	128	x 474	60.672						
Scan 4		m	586	x 830	486.380						
Scan 5		m	1.351	x 581	784.931						
Scan 6		m	760	x 388	294.880						
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani

APPENDIX I/b

SURVEY DATA SHEETS:

IGLESIA SAN FRANCISCO DEL BARÓN



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.

CFR

Consorzio
Ferrara
Ricerche



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

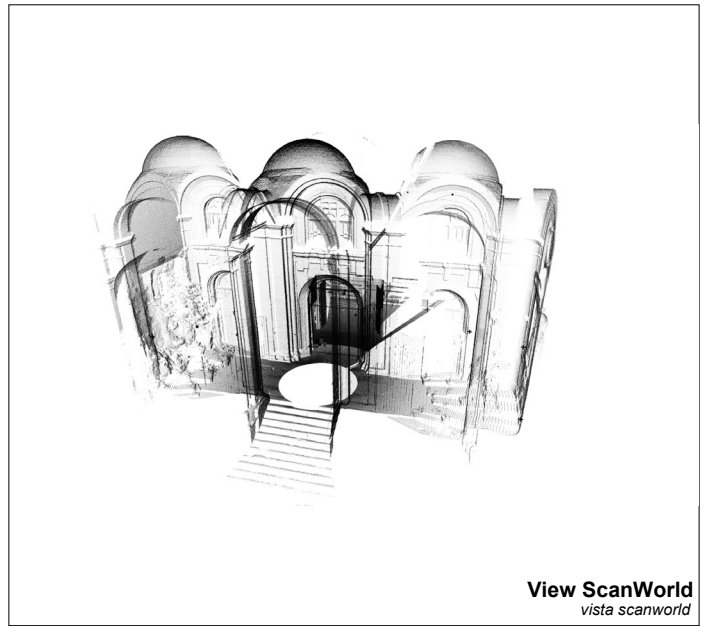
Date 07/11/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071107
progetto

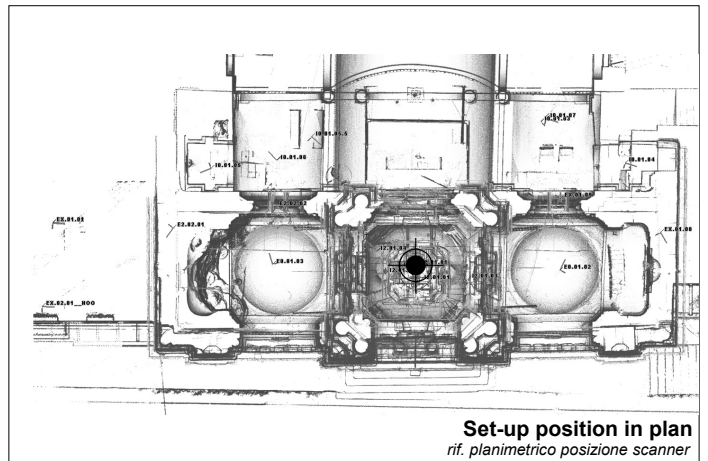
ScanWorld E0.01.01
scanworld

Total no. scans 7
totale scansioni

Total no. points 3.084.935
totale punti

Total no. targets 8
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	6 m	1.848	x 705	1.302.840	0	360	360	-45	90	135
Scan 2	2 x 2 cm	15 m	683	x 535	365.405	60	113	53	-25	16	41
Scan 7		m	571	x 437	249.527						
Scan 8		m	510	x 460	234.600						
Scan 9		m	489	x 450	220.050						
Scan 11		m	565	x 752	424.880						
Scan 12		m	383	x 751	287.633						
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Iglesia San Francisco

Date 07/11/2007

Time 16.35 h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo



View ScanWorld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO

Project 071107

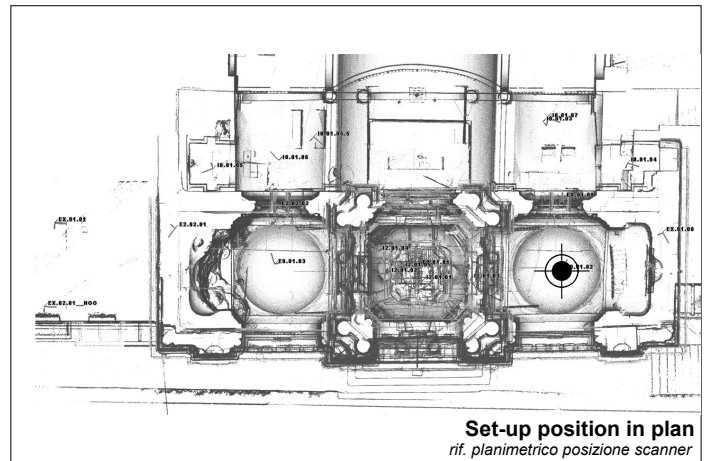
ScanWorld E0.01.02

Total no. scans 1

Total no. points 1.304.688

Total no. targets 7

Scanner position



Set-up position in plan

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°] Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Table with columns: Scan, Space Grid, Probe, Point set, Scan Field-of-View, X points, Y points, Sub-total points, Hz - Window, V - Window. Row 1: Scan 1, 2 x 2 cm, 6 m, 1.848 x 706, 1.304.688, 0, 360, 360, -45, 90, 135.

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani





IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

Date 07/11/2007
data

Time 18.10 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071107
progetto

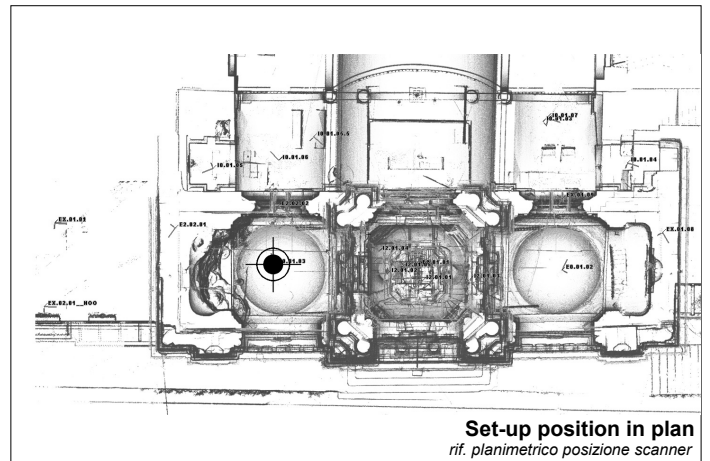
ScanWorld E0.01.03
scanworld

Total no. scans 2
totale scansioni

Total no. points 1.556.984
totale punti

Total no. targets 8
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	6 m	1.884	x 706	1.330.104	0	360	360	-45	90	135
Scan 7	2 x 2 cm	15 m	320	x 709	226.880	19	43	24	-35	19	54
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

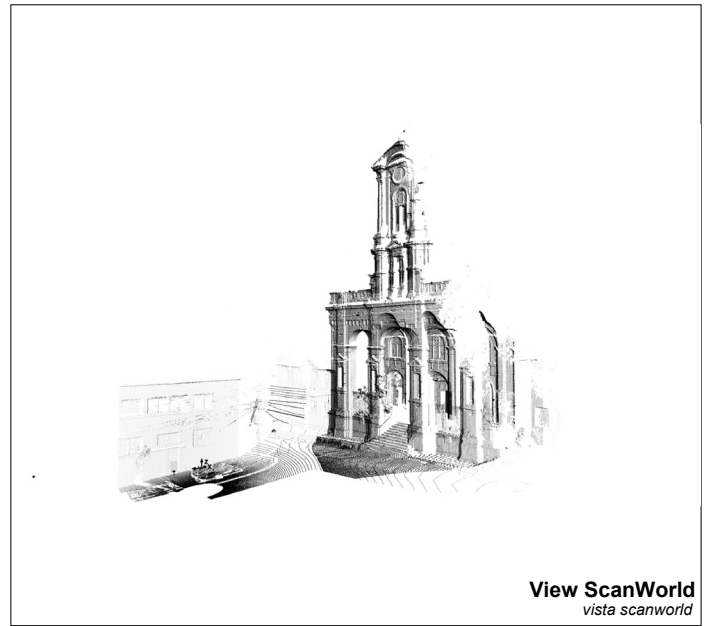
Date 07/11/2007
data

Time 19.38 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071107
progetto

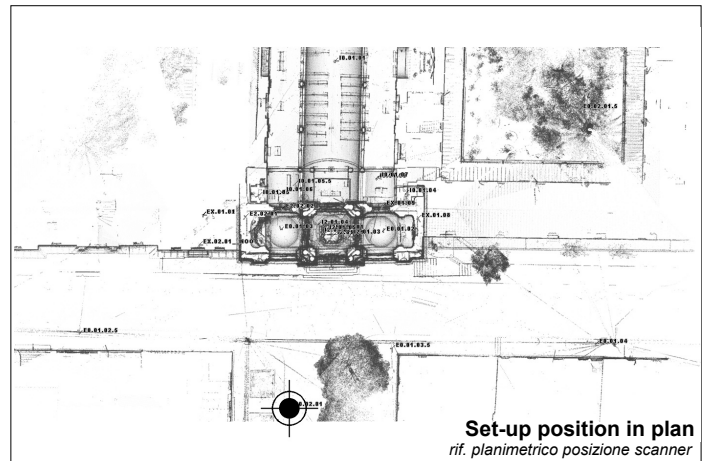
ScanWorld E0.02.01
scanworld

Total no. scans 4
totale scansioni

Total no. points 1.482.108
totale punti

Total no. targets 8
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	5 m	942	x 248	233.616	0	360	360	-45	50	95
Scan 2	2 x 2 cm	20 m	1.143	x 854	976.122	111	179	68	-5	43	48
Scan 3	2 x 2 cm	40 m	906	x 112	101.472	134	160	26	41	64	23
Scan 4	2 x 2 cm	45 m	626	x 273	170.898	137	153	16	57	64	7
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

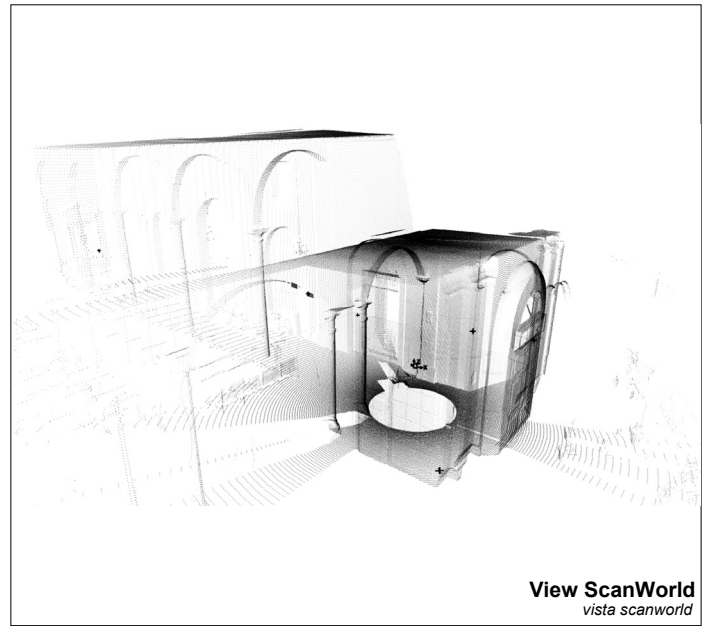
Date 09/11/2007
data

Time 11.35 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071109
progetto

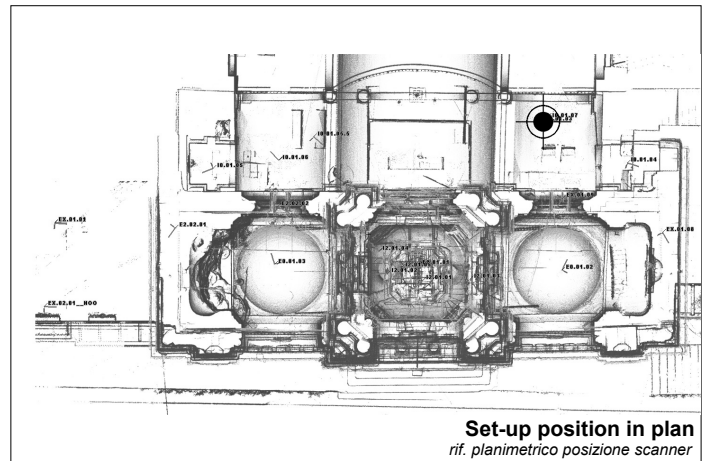
ScanWorld 10.01.03
scanworld

Total no. scans 2
totale scansioni

Total no. points 355.584
totale punti

Total no. targets 10
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	942	x 353	332.526	0	360	360	-45	90	135
Scan 2	2 x 2 cm	3 m	122	x 189	23.058	103	150	47	-25	47	72
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Iglesia San Francisco

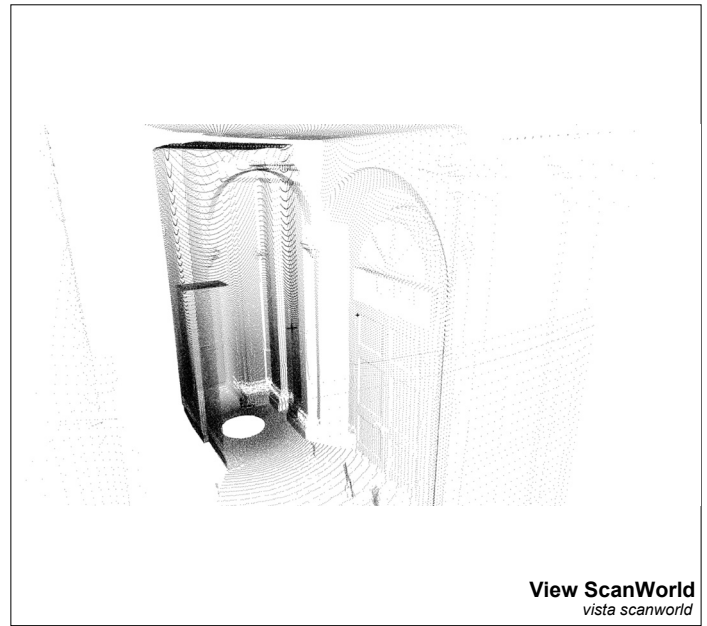
Date 09/11/2007

Time 12.45 h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo



View ScanWorld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO

Project 071109

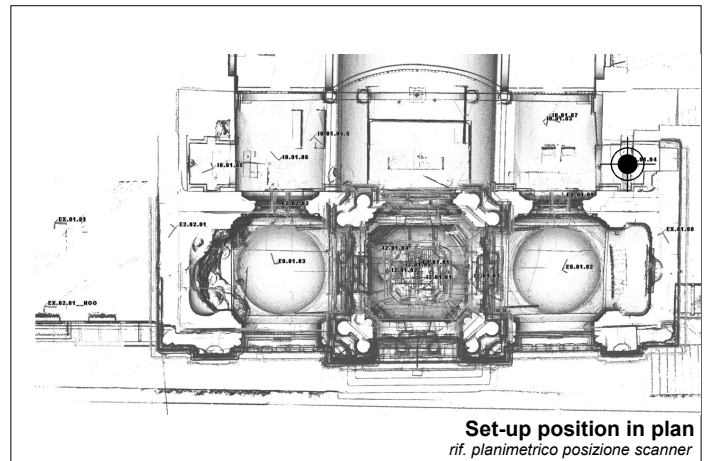
ScanWorld 10.01.04

Total no. scans 1

Total no. points 147.580

Total no. targets 4

Scanner position



Set-up position in plan

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°]

Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan	Space Grid	Probe	Point set			Scan Field-of-View					
			X points	Y points	Sub-total points	Hz - Window			V - Window		
			punti in x	punti in y	sub-totale punti	Left [°]	Right [°]	Delta [°]	Bottom [°]	Top [°]	Delta [°]
Scan 1	2 x 2 cm	2 m	628	235	147.580	0	360	360	-45	90	135
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

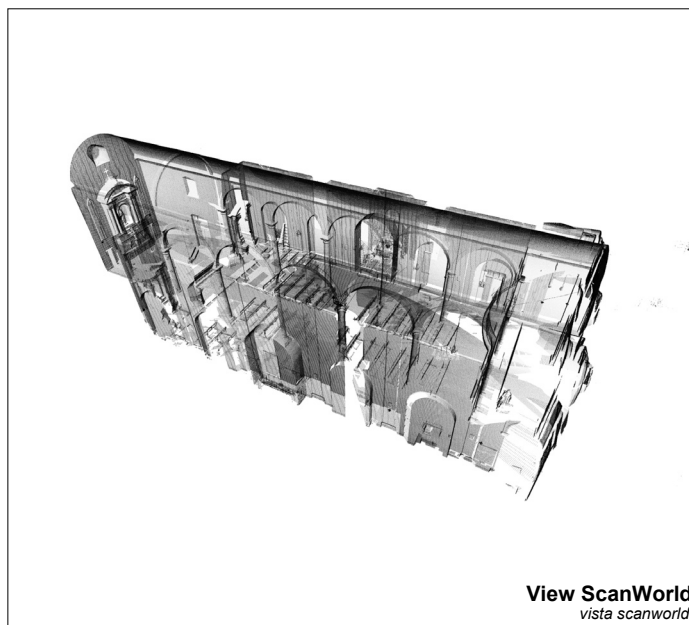
Date 07/11/2007
data

Time 21.00 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071107
progetto

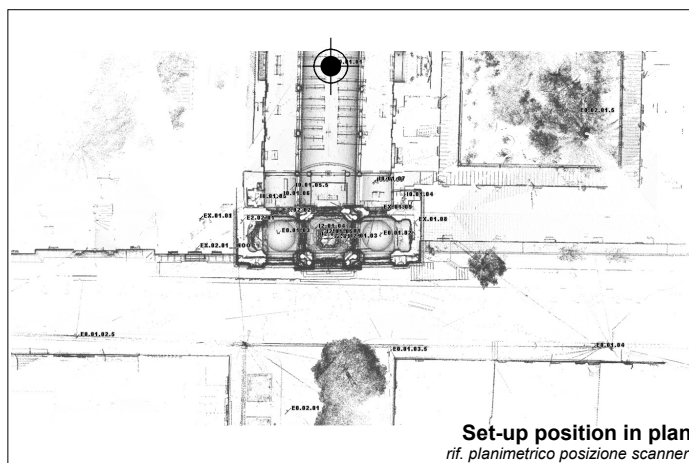
ScanWorld 10.01.01
scanworld

Total no. scans 1
totale scansioni

Total no. points 33.075.081
totale punti

Total no. targets 12
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 2		30 m	9.399	x 3.519	33.075.081	0	360	360	-45	90	135
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

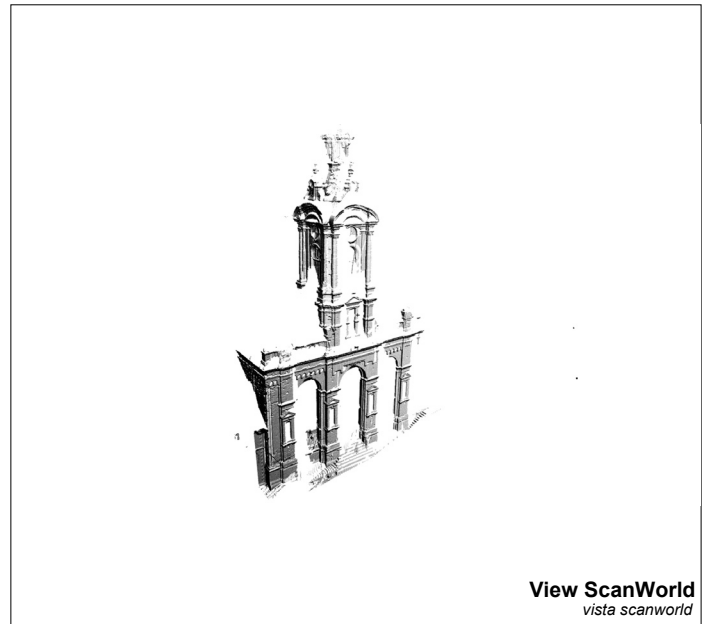
Date 08/11/2007
data

Time 10.10 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071108
progetto

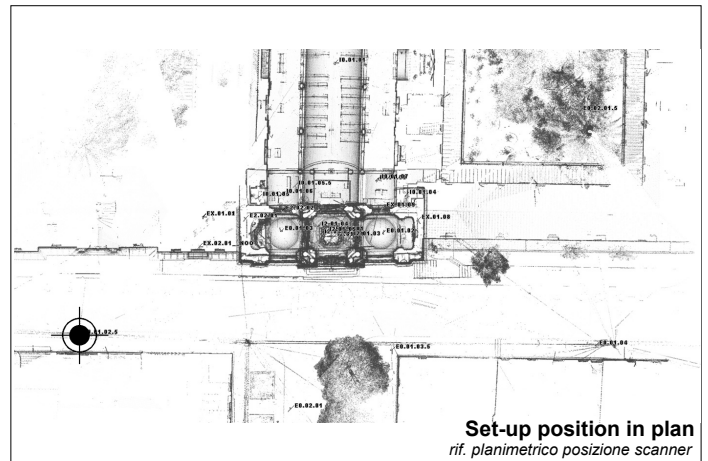
ScanWorld E0.01.02.5
scanworld

Total no. scans 5
totale scansioni

Total no. points 3.308.114
totale punti

Total no. targets 7
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	940	x 352	330.880	0	360	360	-45	90	135
Scan 2	2 x 2 cm	16 m	487	x 761	370.607	75	110	35	-3	52	55
Scan 7	2 x 2 cm	40 m	1.237	x 2.005	2.480.185	75	110	35	-4	54	58
Scan 8	1 x 1 cm	30 m	733	x 130	95.290	88	102	14	43	52	9
Scan 9		m	176	x 177	31.152						
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani





IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

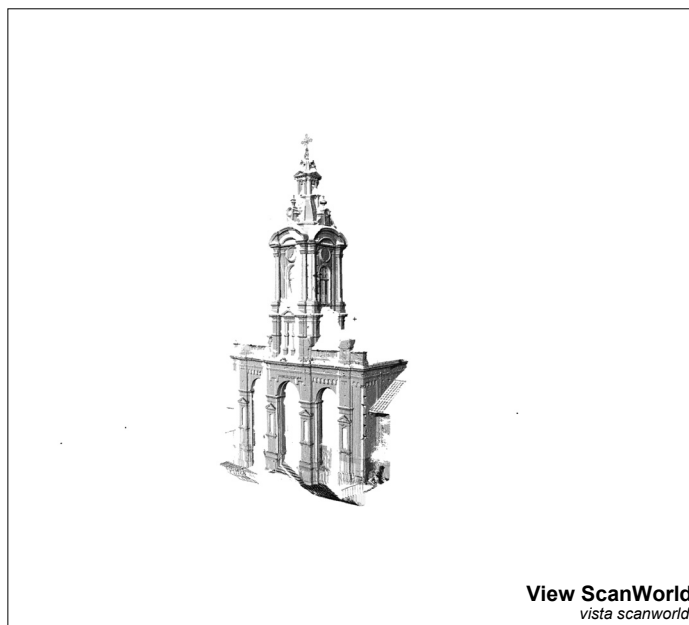
Date 08/11/2007
data

Time 17.50 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071108
progetto

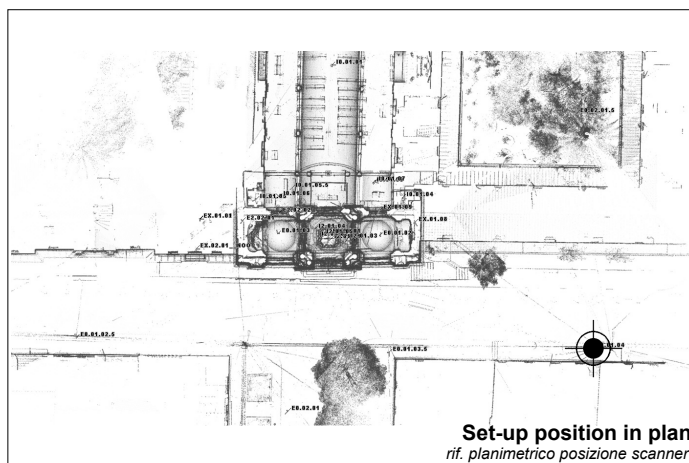
ScanWorld E0.01.04
scanworld

Total no. scans 6
totale scansioni

Total no. points 2.583.039
totale punti

Total no. targets
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	937	x 347	325.139	0	360	360	-45	90	135
Scan 2	2 x 2 cm	40 m	728	x 2.090	1.521.520	234	255	21	-12	49	61
Scan 3		m	378	x 116	43.848						
Scan 10	2 x 2 cm	40 m	418	x 1.221	510.378	255	267	12	-12	23	35
Scan 12	2 x 2 cm	30 m	467	x 338	157.846	237	255	18	33	49	16
Scan 14		m	236	x 103	24.308						
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

Date 08/11/2007
data

Time 11.55 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071108
progetto

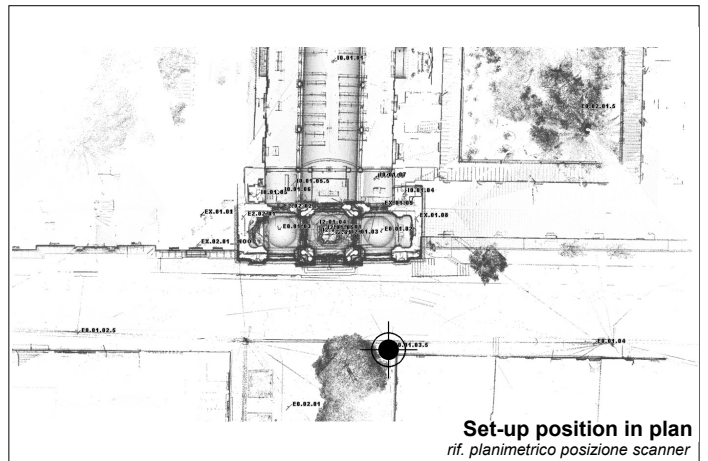
ScanWorld E0.01.03.5
scanworld

Total no. scans 3
totale scansioni

Total no. points 2.536.346
totale punti

Total no. targets 14
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	942	x 353	332.526	0	360	360	-45	90	135
Scan 2	2 x 2 cm	20 m	1.570	x 1.202	1.887.140	115	205	90	-12	57	69
Scan 3	2 x 2 cm	35 m	1.160	x 273	316.680	136	174	38	56	70	14
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

Date 08/11/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071108
progetto

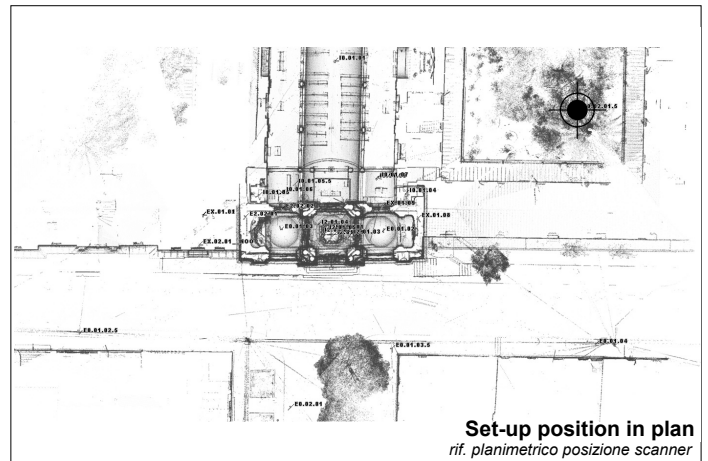
ScanWorld E0.02.01.5
scanworld

Total no. scans 7
totale scansioni

Total no. points 1.880.905
totale punti

Total no. targets 9
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>		Sub-total points <i>sub-totale punti</i>	Scan Field-of-View <i>campo di presa scansione</i>			V - Window <i>apertura verticale</i>		
			X points <i>punti in x</i>	Y points <i>punti in y</i>		Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	2 m	628	x 233	146.324	0	360	360	-45	90	135
Scan 2	2 x 2 cm	35 m	610	x 1.085	661.850	240	260	20	15	51	36
Scan 6	2 x 2 cm	36 m	195	x 91	17.745	235	341	106	22	27	5
Scan 7		m	1.030	x 325	334.750						
Scan 8	2 x 2 cm	3 m	939	x 219	205.641	0	360	360	-45	40	85
Scan 9	2 x 2 cm	20 m	330	x 584	192.720	241	260	19	115	49	-66
Scan 10	2 x 2 cm	40 m	625	x 515	321.875	242	260	18	34	49	15
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.



**Consorzio
Ferrara
Ricerche**



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

Date 12/11/2007
data

Time 15.20 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071112
progetto

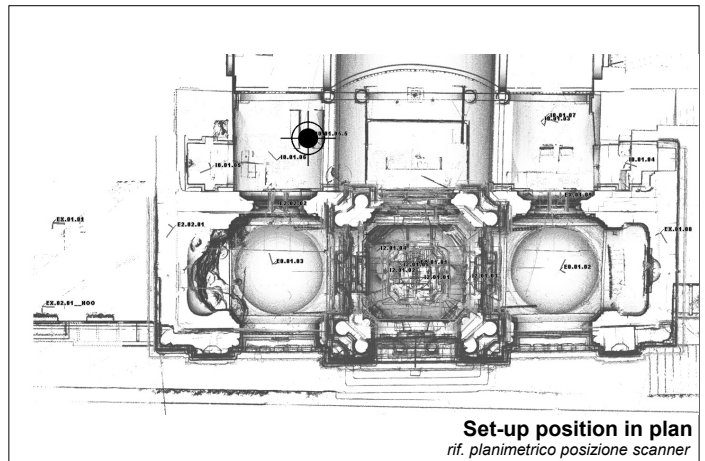
ScanWorld 10.01.05.5
scanworld

Total no. scans 3
totale scansioni

Total no. points 421.134
totale punti

Total no. targets 8
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	346	x 938	324.548	0	360	360	-45	90	135
Scan 2		m	155	x 458	70.990						
Scan 4		m	108	x 237	25.596						
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

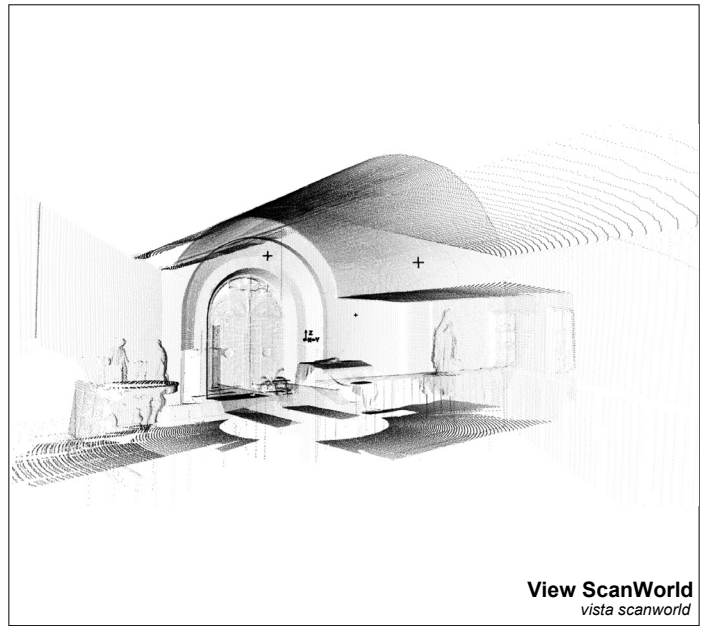
Date 12/11/2007
data

Time 16.00 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071112
progetto

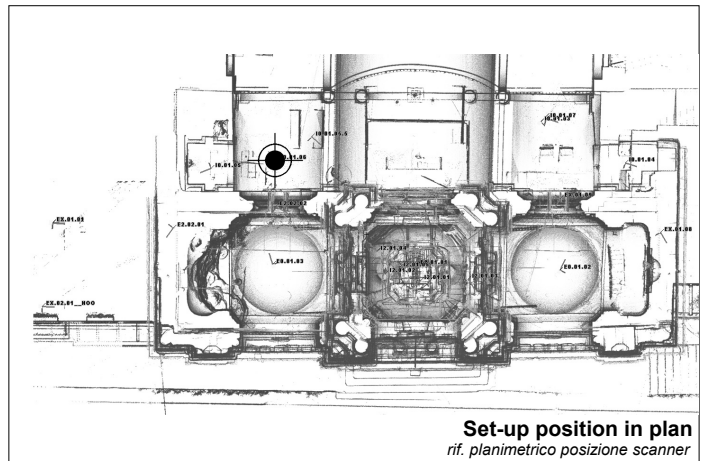
ScanWorld 10.01.06
scanworld

Total no. scans 2
totale scansioni

Total no. points 418.339
totale punti

Total no. targets 6
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	935	x 345	322.575	0	360	360	-45	90	135
Scan 2	2 x 2 cm	5 m	356	x 269	95.764	83	165	82	-28	34	62
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

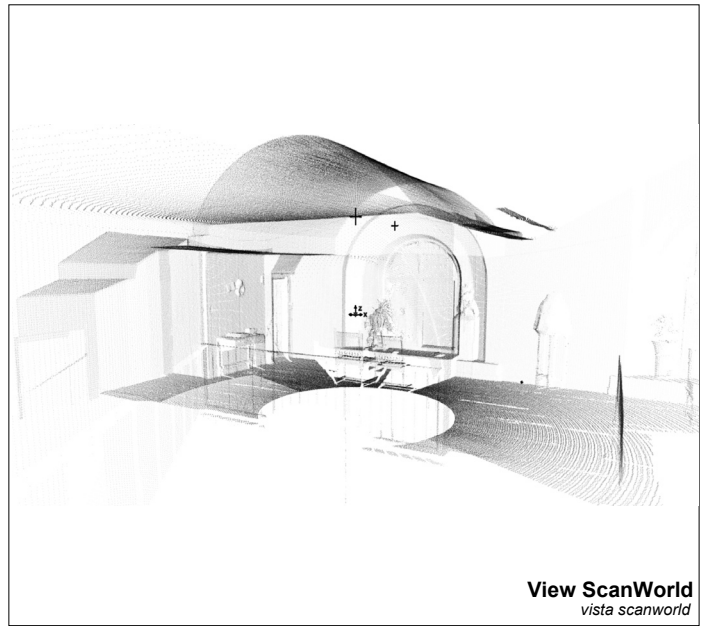
Date 12/11/2007
data

Time 17.15 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071112
progetto

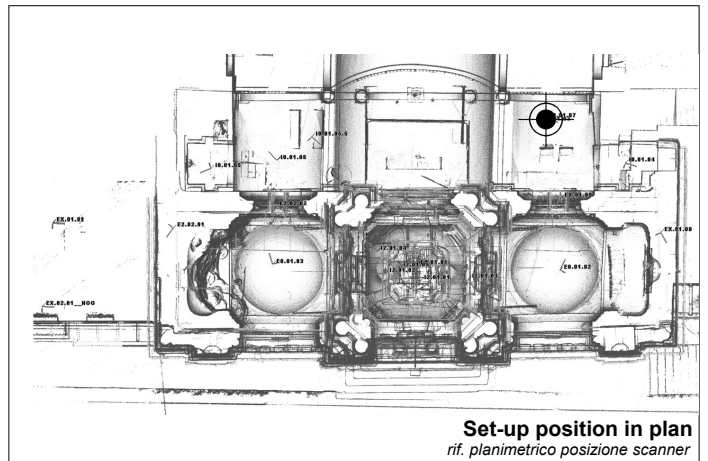
ScanWorld 10.01.07
scanworld

Total no. scans 3
totale scansioni

Total no. points 577.922
totale punti

Total no. targets 7
totale target

Scanner position
posizione scanner



Set-up position in plan
ref. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	933	x 349	325.617	0	360	360	-45	90	135
Scan 2	2 x 2 cm	5 m	785	x 259	203.315	3	185	182	-45	15	60
Scan 10		m	230	x 213	48.990						
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani





IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

Date 09/11/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071109
progetto

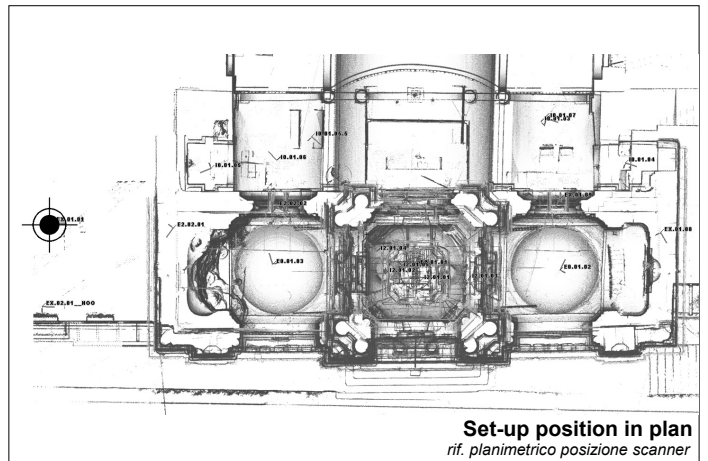
ScanWorld EX.01.01
scanworld

Total no. scans 3
totale scansioni

Total no. points 178.482
totale punti

Total no. targets 4
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Sub-total points <i>sub-totale punti</i>	Scan Field-of-View <i>campo di presa scansione</i>				
			X points <i>punti in x</i>	Y points <i>punti in y</i>			Hz - Window <i>apertura orizzontale</i>	V - Window <i>apertura verticale</i>			
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1		m	603	x 237	142.911						
Scan 2		m	116	x 105	12.180						
Scan 3		m	113	x 207	23.391						
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Iglesia San Francisco

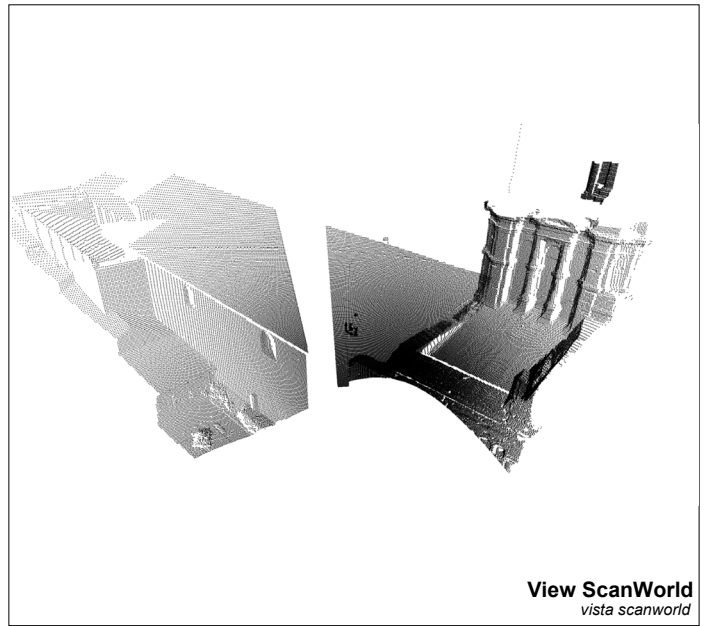
Date 09/11/2007

Time h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Bleresch - Neira - Quevedo



View ScanWorld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO

Project 071109

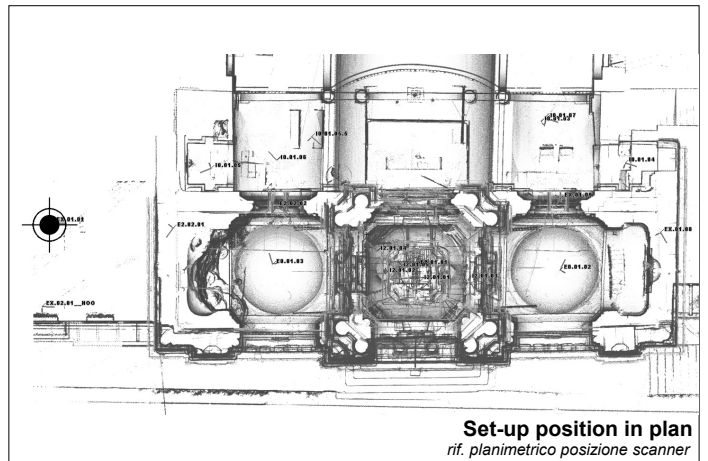
ScanWorld EX.01.02

Total no. scans 1

Total no. points 206.976

Total no. targets 5

Scanner position



Set-up position in plan

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°]

Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Table with columns: Scan, Space Grid, Probe, Point set, X points, Y points, Sub-total points

Table with columns: Scan Field-of-View, Hz - Window, V - Window, Left [°], Right [°], Delta [°], Bottom [°], Top [°], Delta [°]

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Iglesia San Francisco

Date 09/11/2007

Time h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo



View ScanWorld vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO

Project 071109

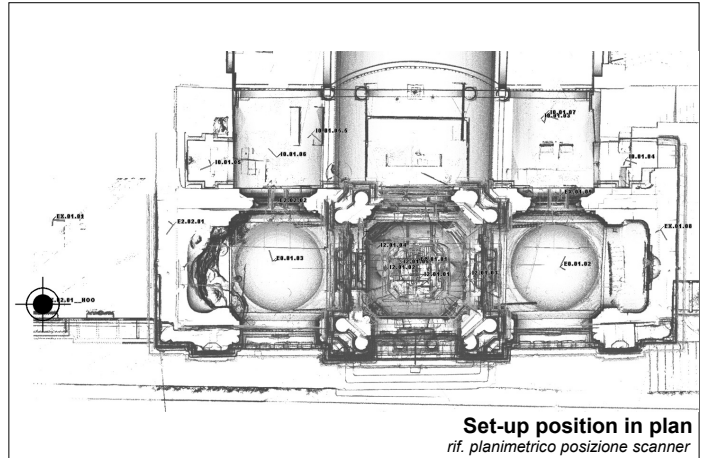
ScanWorld EX.02.01__NOO

Total no. scans 2

Total no. points 119.721

Total no. targets 7

Scanner position



Set-up position in plan rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°]

Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Table with columns: Scan, Space Grid, Probe, Point set (X points, Y points, Sub-total points), Scan Field-of-View (Hz - Window, V - Window)

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Iglesia San Francisco

Date 09/11/2007

Time h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo



View ScanWorld vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO

Project 071109

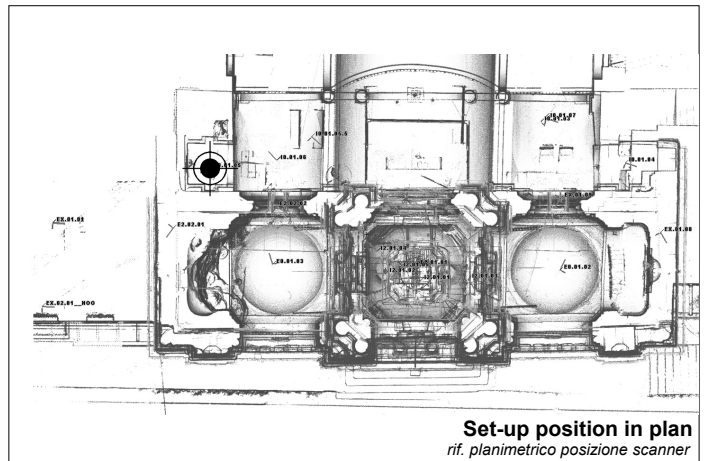
ScanWorld 10.01.05

Total no. scans 1

Total no. points 147.580

Total no. targets 3

Scanner position



Set-up position in plan rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°]

Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan

Space Grid

Probe

Point set

Scan Field-of-View

X points Y points Sub-total points

Hz - Window

V - Window

Left [°] Right [°] Delta [°]

Bottom [°] Top [°] Delta [°]

Table with 10 columns: Scan, Space Grid, Probe, Point set (X points, Y points, Sub-total points), Scan Field-of-View (Hz - Window, V - Window). Row 1: Scan 1, m, m, 628 x 235, 147.580, Hz - Window, V - Window.

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

Date 12/11/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071112
progetto

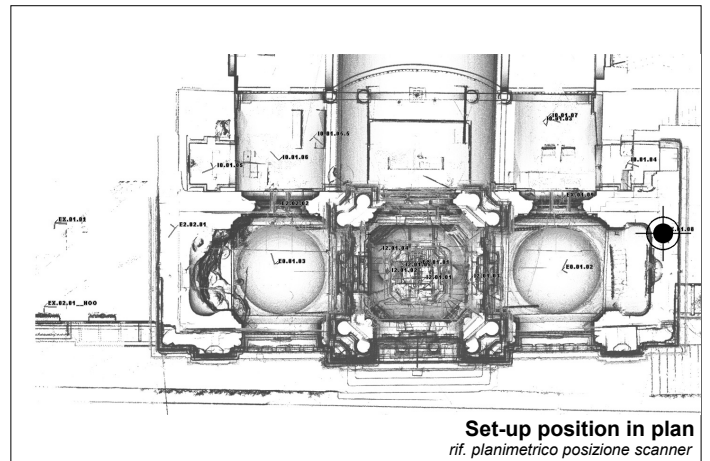
ScanWorld EX.01.08
scanworld

Total no. scans 7
totale scansioni

Total no. points 633.278
totale punti

Total no. targets 8
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Sub-total points <i>sub-totale punti</i>
			X points <i>punti in x</i>	Y points <i>punti in y</i>		
Scan 2		m	532	x 188	100.016	
Scan 3		m	409	x 143	58.487	
Scan 4		m	156	x 104	16.224	
Scan 5		m	523	x 420	219.660	
Scan 7		m	654	x 250	163.500	
Scan 11		m	143	x 137	19.591	
Scan 14		m	310	x 180	55.800	
		m		x		
		m		x		
		m		x		

Scan Field-of-View
campo di presa scansione

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Iglesia San Francisco

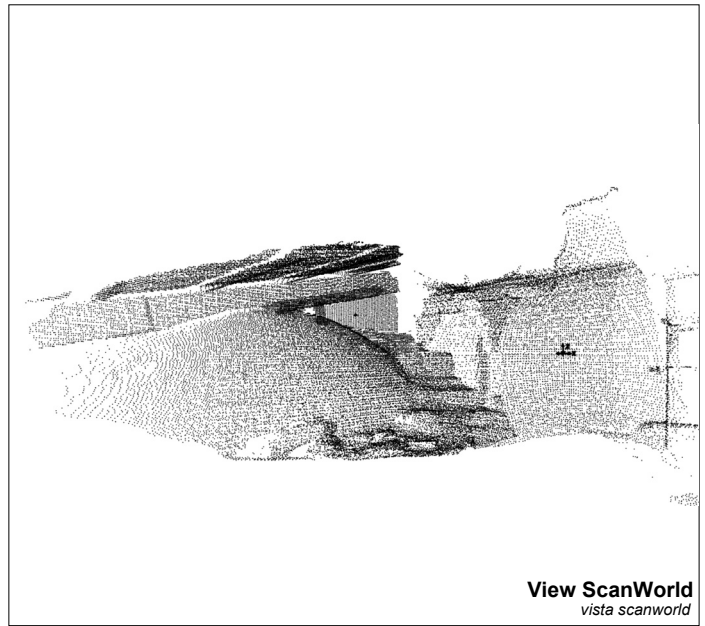
Date 12/11/2007

Time h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Blersch - Neira



View ScanWorld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO

Project 071112

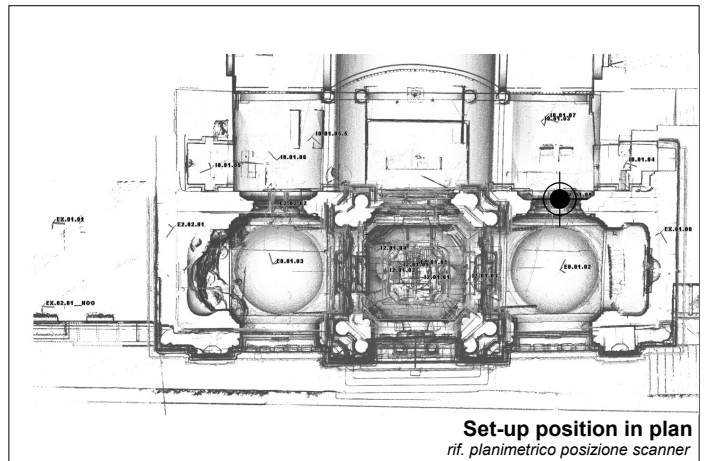
ScanWorld EX.01.09

Total no. scans 2

Total no. points 144.165

Total no. targets 4

Scanner position



Set-up position in plan

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°]

Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan

Space Grid

Probe

Point set

Scan Field-of-View

Table with columns: Scan, Space Grid, Probe, Point set (X points, Y points, Sub-total points)

Table with columns: Hz - Window, V - Window, Left [°], Right [°], Delta [°], Bottom [°], Top [°], Delta [°]

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

Date 13/11/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071113
progetto

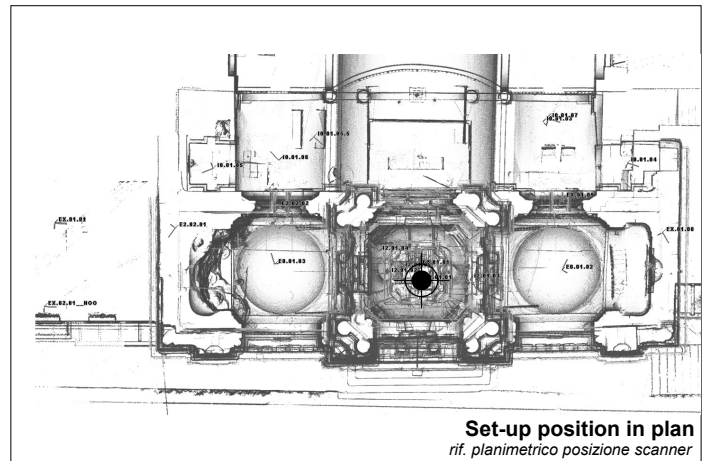
ScanWorld I2.01.01
scanworld

Total no. scans 1
totale scansioni

Total no. points 322.596
totale punti

Total no. targets 7
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	m	927	x 348	322.596	0	360	360	-45	90	135
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

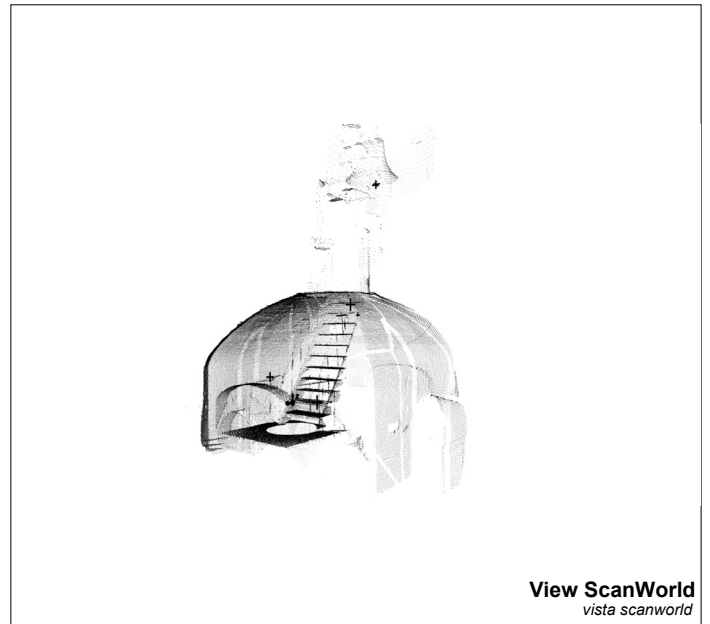
Date 13/11/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071113
progetto

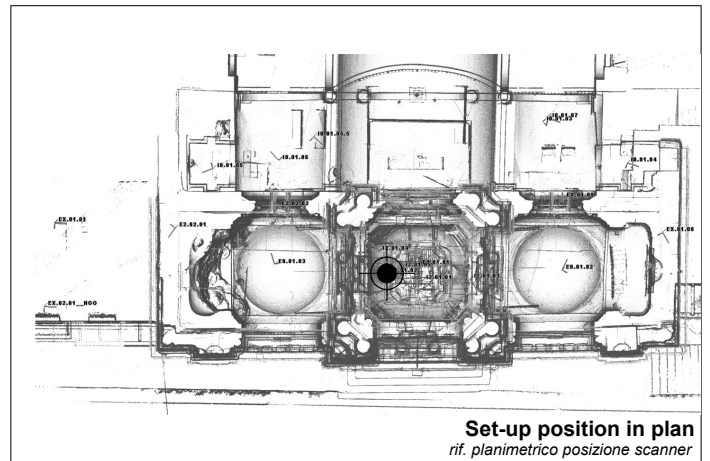
ScanWorld 12.01.02
scanworld

Total no. scans 1
totale scansioni

Total no. points 73.776
totale punti

Total no. targets 4
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	m	318	x 232	73.776	0	360	360	-45	90	135
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

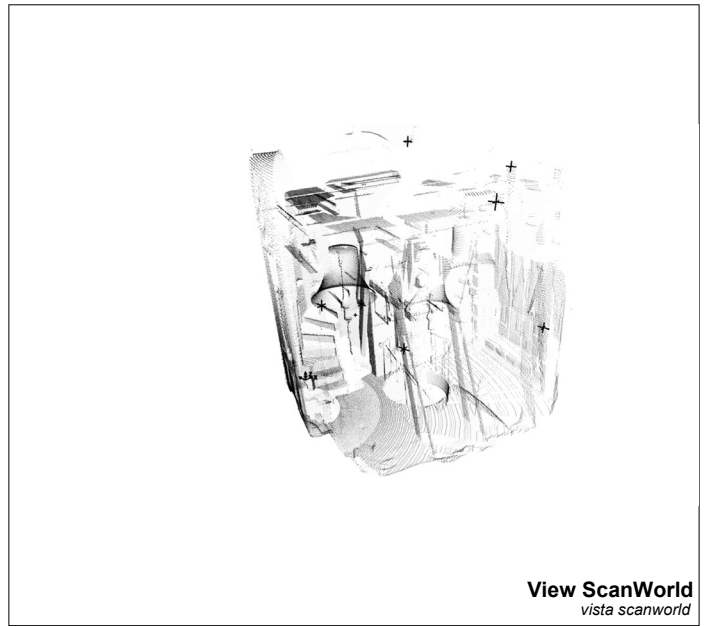
Date 13/11/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071113
progetto

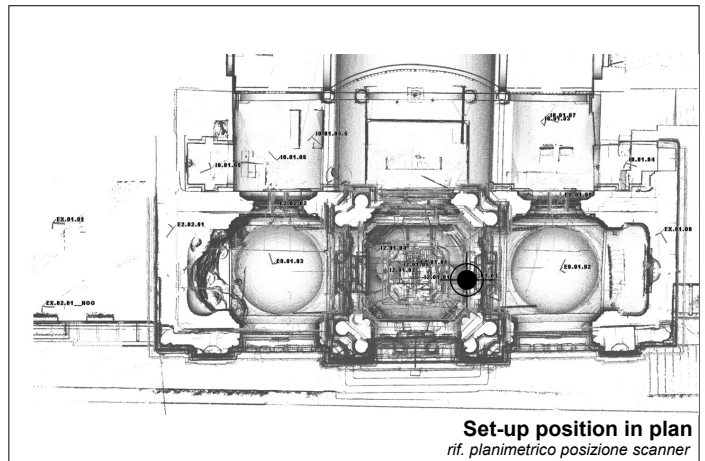
ScanWorld 12.01.03
scanworld

Total no. scans 3
totale scansioni

Total no. points 371.096
totale punti

Total no. targets 8
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	m	618	x 232	143.376	0	360	360	-45	90	135
Scan 2		m	448	x 288	129.024						
Scan 3		m	338	x 292	98.696						
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

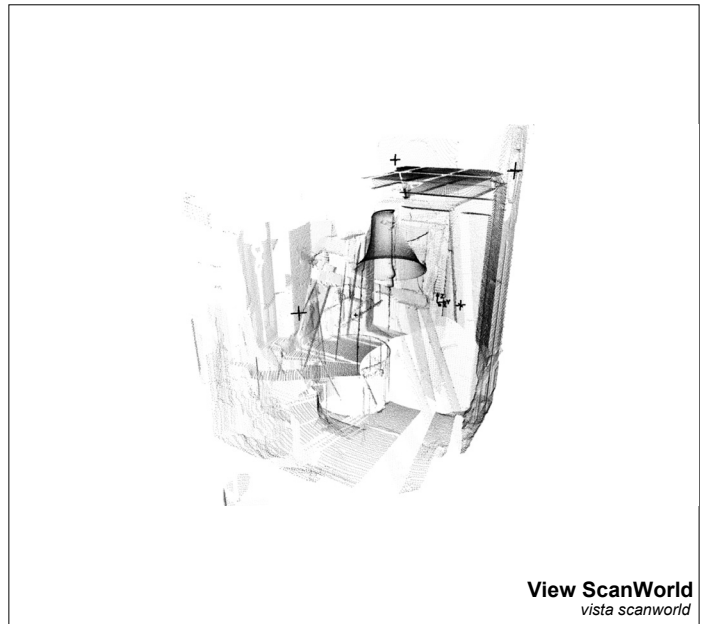
Date 13/11/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071113
progetto

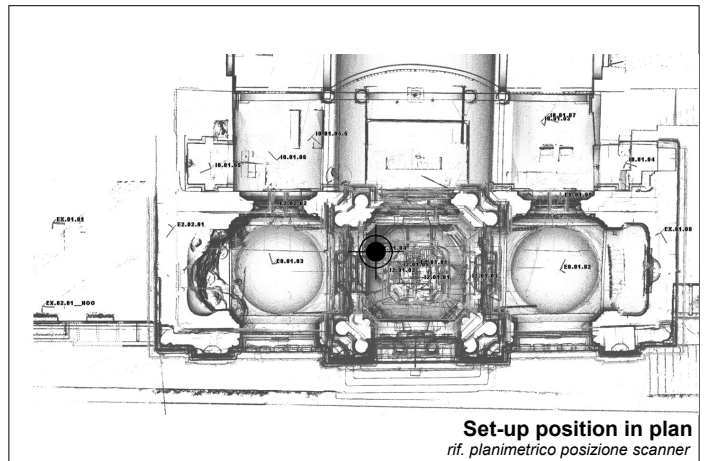
ScanWorld 12.01.04
scanworld

Total no. scans 2
totale scansioni

Total no. points 294.280
totale punti

Total no. targets 4
totale target

Scanner position
posizione scanner



Set-up position in plan
ref. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	m	628	x 235	147.580	0	360	360	-45	90	135
Scan 2		m	450	x 326	146.700						
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Iglesia San Francisco

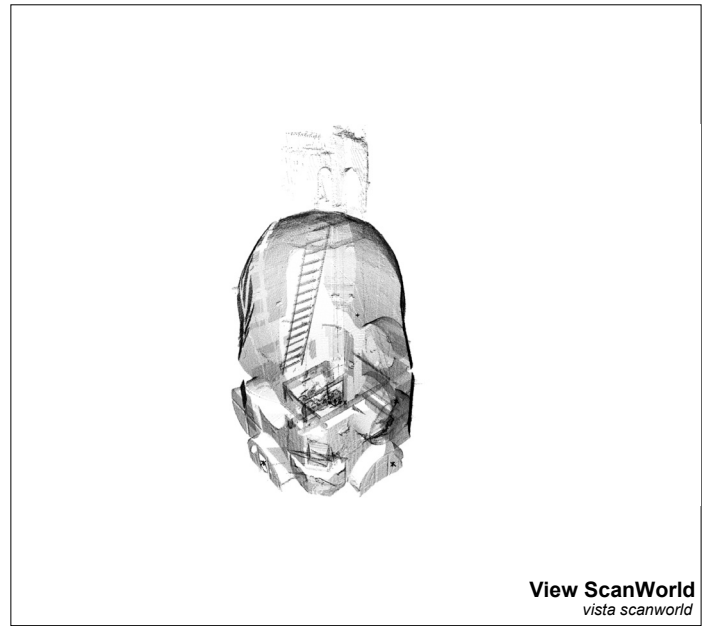
Date 13/11/2007

Time h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Blersch - Neira



View ScanWorld vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO

Project 071113

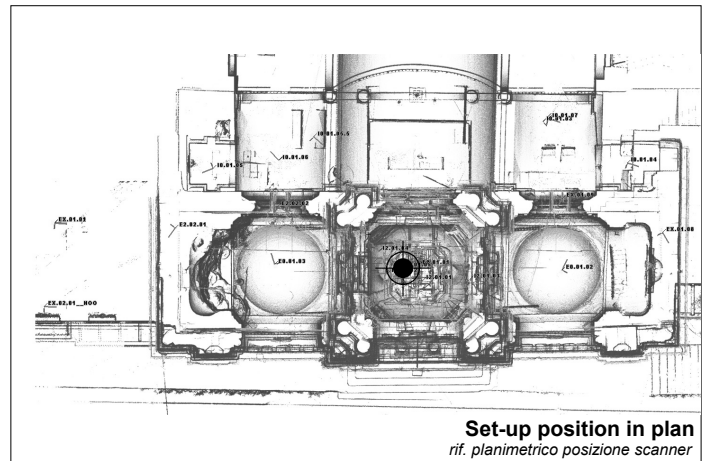
ScanWorld 12.01.05

Total no. scans 1

Total no. points 588.595

Total no. targets 3

Scanner position



Set-up position in plan rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°] Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Table with columns: Scan, Space Grid, Probe, Point set, Scan Field-of-View, Hz - Window, V - Window. Row 1: Scan 1, 2 x 2 cm, m, 1.255 x 469, 588.595, 0, 360, 360, -45, 90, 135.

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Iglesia San Francisco
oggetto

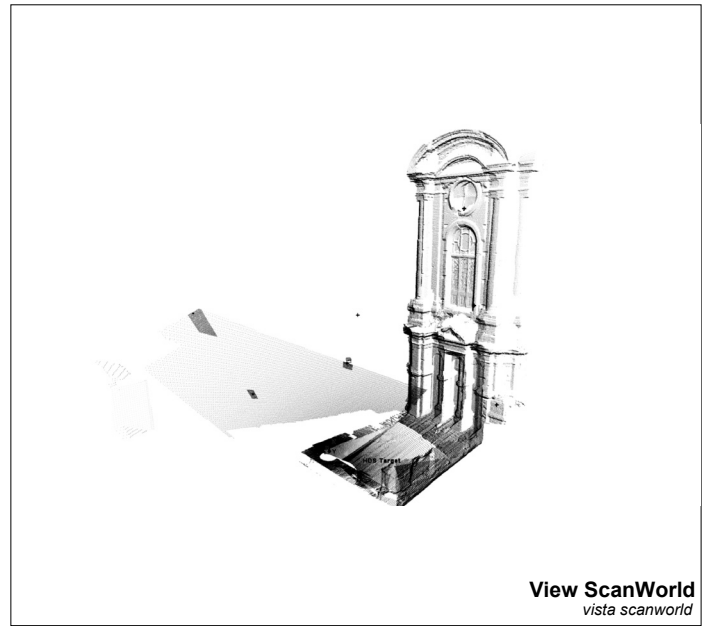
Date 13/11/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO
nome database (.imp)*

Project 071113
progetto

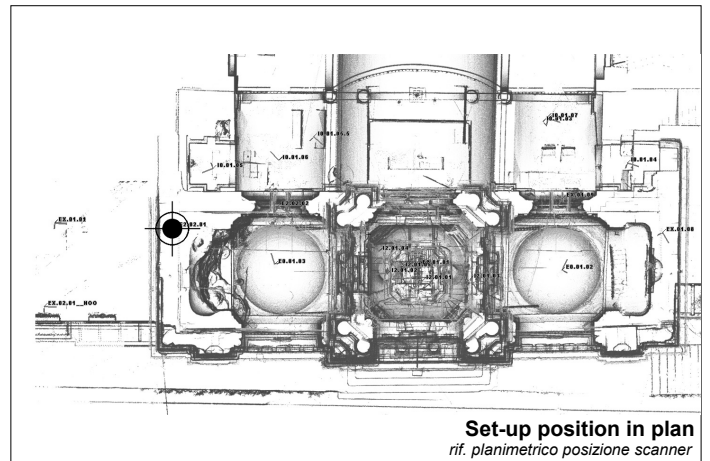
ScanWorld E2.02.01
scanworld

Total no. scans 4
totale scansioni

Total no. points 590.739
totale punti

Total no. targets 7
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Sub-total points <i>sub-totale punti</i>
			X points <i>punti in x</i>	Y points <i>punti in y</i>		
Scan 5		m	941	x 156	146.796	
Scan 6		m	510	x 657	335.070	
Scan 7		m	427	x 99	42.273	
Scan 8		m	360	x 185	66.600	
		m		x		
		m		x		
		m		x		
		m		x		
		m		x		
		m		x		

Scan Field-of-View
campo di presa scansione

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Iglesia San Francisco

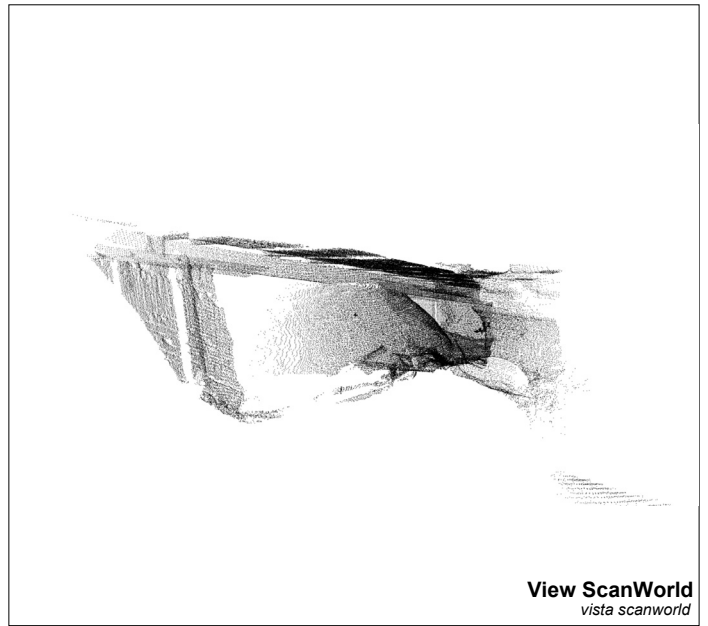
Date 13/11/2007

Time h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Blersch - Neira



View ScanWorld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_SAN_FRANCISCO

Project 071113

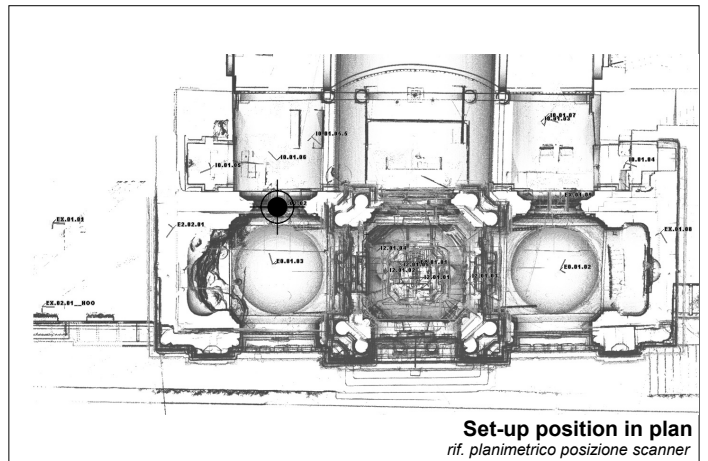
ScanWorld E2.02.02

Total no. scans 2

Total no. points 256.521

Total no. targets 3

Scanner position



Set-up position in plan

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°]

Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Table with columns: Scan, Space Grid, Probe, Point set, X points, Y points, Sub-total points

Table with columns: Scan Field-of-View, Hz - Window, V - Window, Left [°], Right [°], Delta [°], Bottom [°], Top [°], Delta [°]

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani

APPENDIX I/c

SURVEY DATA SHEETS:

IGLESIA HERMANAS DE LA DIVINA PROVIDENCIA DEL ALMENRDÁL



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Igl. H. de la Providencia

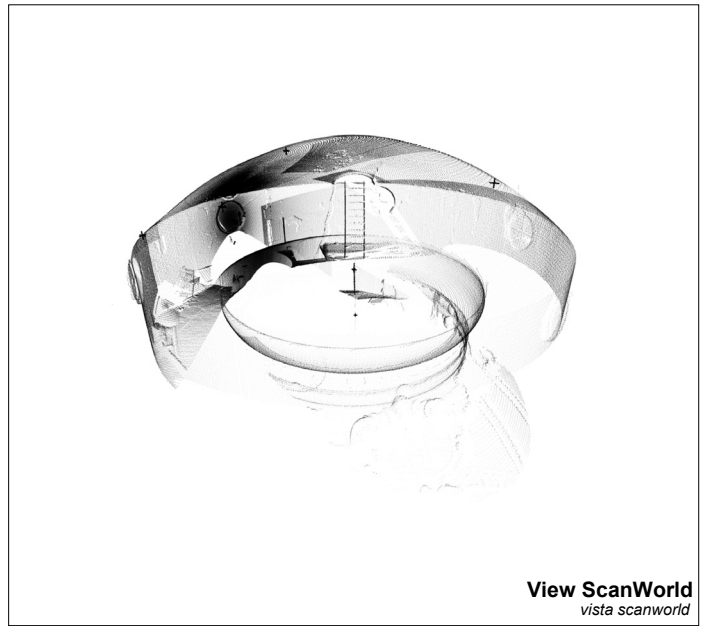
Date 12/11/2007

Time 09.20 h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Blersch - Neira



View ScanWorld vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA

Project 071112

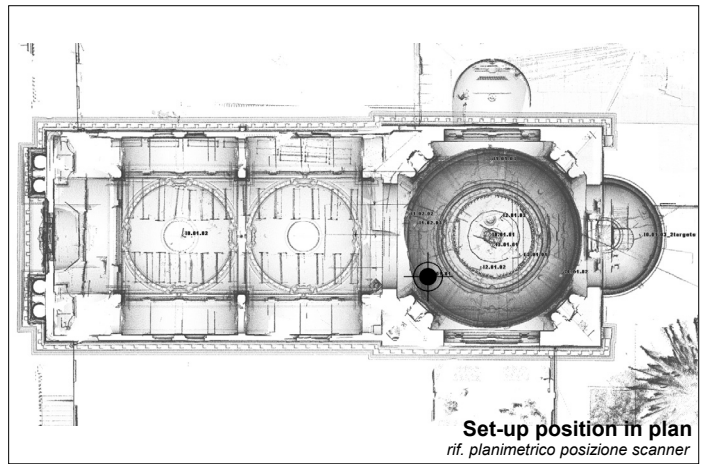
ScanWorld 11.01.01

Total no. scans 2

Total no. points 326.890

Total no. targets 6

Scanner position



Set-up position in plan rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°]

Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan	Space Grid	Probe	Point set			Scan Field-of-View					
			X points	Y points	Sub-total points	Hz - Window			V - Window		
			punti in x	punti in y	sub-totale punti	Left [°]	Right [°]	Delta [°]	Bottom [°]	Top [°]	Delta [°]
Scan 1	2 x 2 cm	2 m	626	x 227	142.102	0	360	360	-45	90	135
Scan 2	2 x 2 cm	5 m	783	x 236	184.788	180	360	180	-45	10	55
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Igl. H. de la Providencia
oggetto

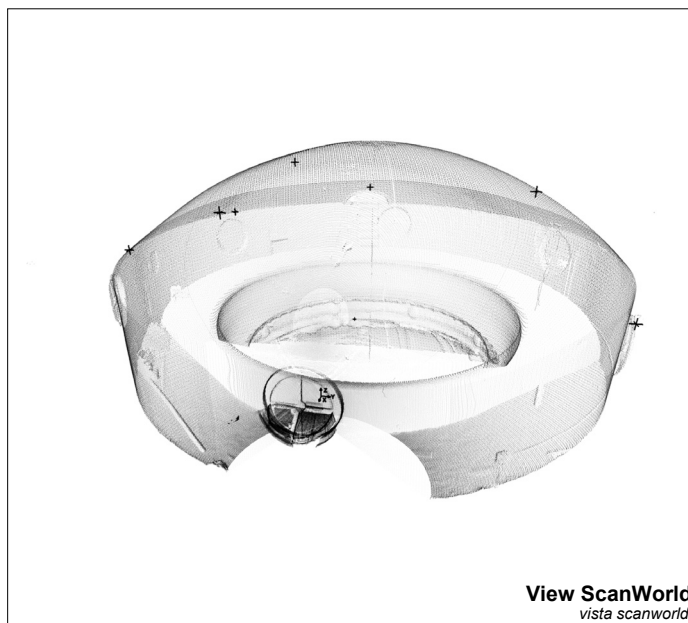
Date 12/11/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira
operatore



View ScanWorld
vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA
nome database (.imp)*

Project 071112
progetto

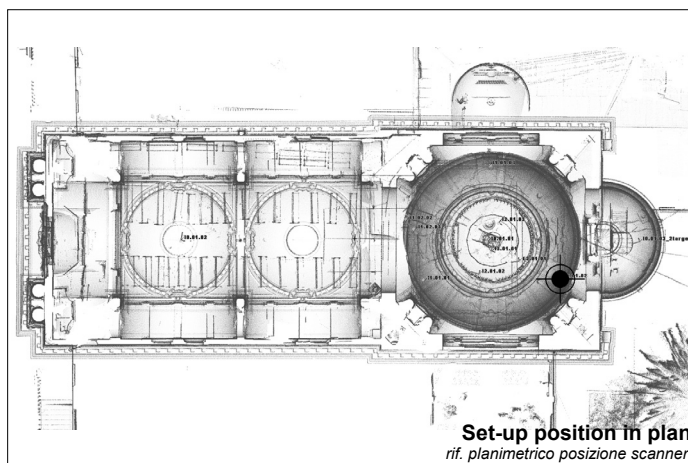
ScanWorld I1.01.02
scanworld

Total no. scans 5
totale scansioni

Total no. points 1.088.685
totale punti

Total no. targets 9
totale target

Scanner position
posizione scanner



Set-up position in plan
rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	622	x 227	141.194	0	360	360	-45	90	135
Scan 2	2 x 2 cm	5 m	785	x 239	187.615	180	360	180	-45	10	55
Scan 3	2 x 2 cm	3 m	471	x 156	73.476	180	36	216	10	70	60
Scan 5		m	1.150	x 576	662.400						
Scan 6		m	125	x 192	24.000						
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.

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Ferrara
Ricerche



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Igl. H. de la Providencia
oggetto

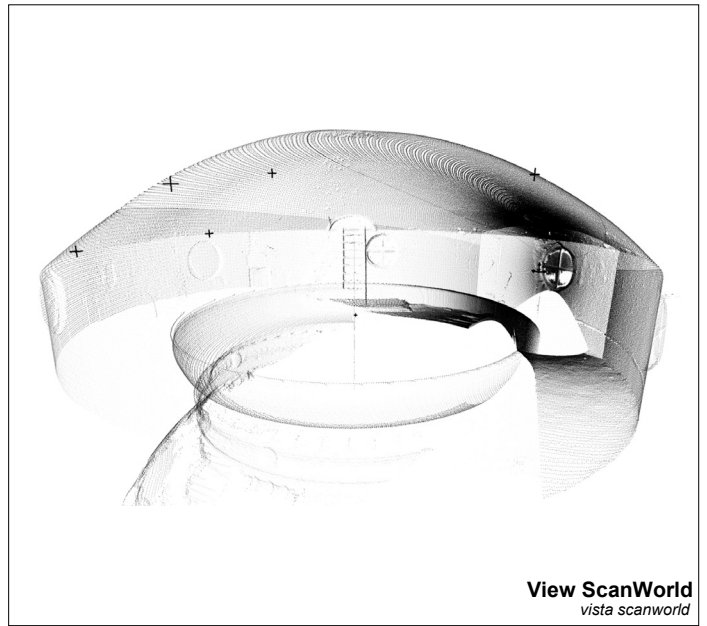
Date 12/11/2007
data

Time 10.00 h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA
nome database (.imp)*

Project 071112
progetto

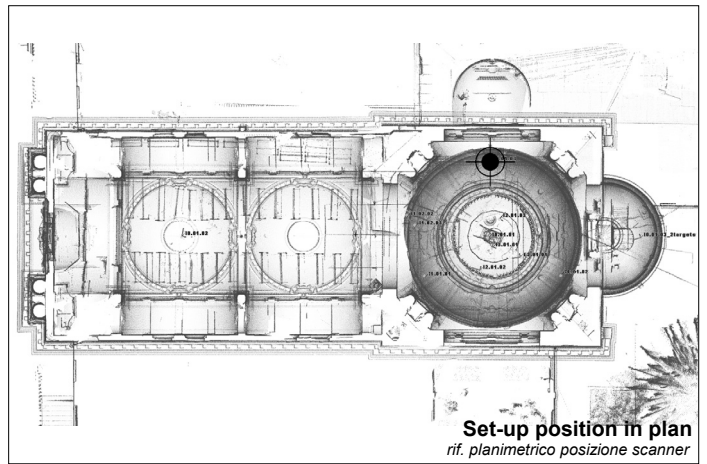
ScanWorld 11.01.03
scanworld

Total no. scans 3
totale scansioni

Total no. points 407.886
totale punti

Total no. targets 5
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] **Right [°]** **Delta [°]**
sinistra destra delta

Bottom [°] **Top [°]** **Delta [°]**
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	2 m	628	x 235	147.580	0	360	360	-45	90	135
Scan 3	2 x 2 cm	3 m	471	x 156	73.476	180	360	180	10	70	60
Scan 4	2 x 2 cm	5 m	785	x 238	186.830	180	360	180	-45	10	55
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Igl. H. de la Providencia

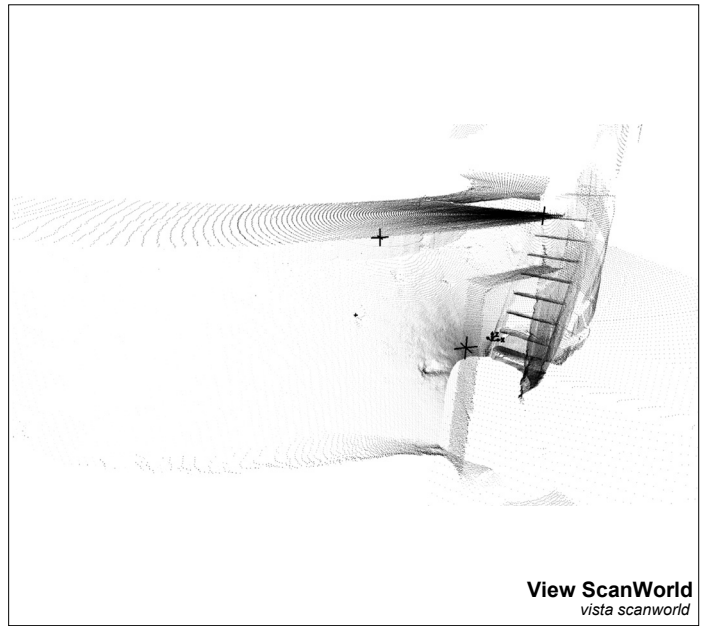
Date 12/11/2007

Time 12.20 h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Blersch - Neira



View ScanWorld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA

Project 071112

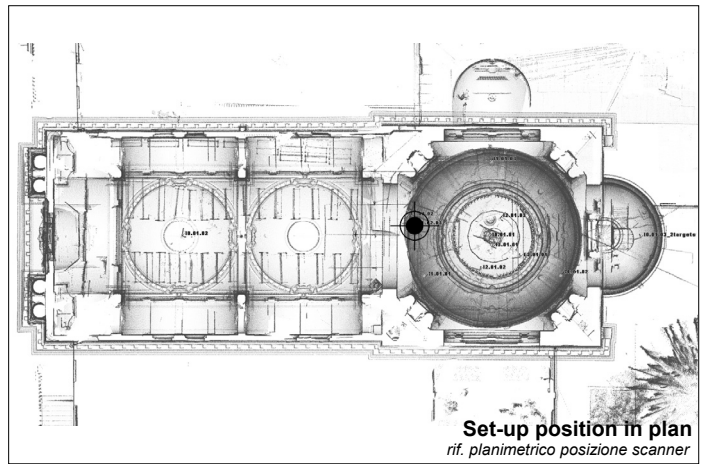
ScanWorld 11.02.03

Total no. scans 1

Total no. points 143.761

Total no. targets 4

Scanner position



Set-up position in plan

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°] Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Table with columns: Scan, Space Grid, Probe, Point set, Scan Field-of-View, Hz - Window, V - Window. It contains detailed acquisition parameters for Scan 1.

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Igl. H. de la Providencia

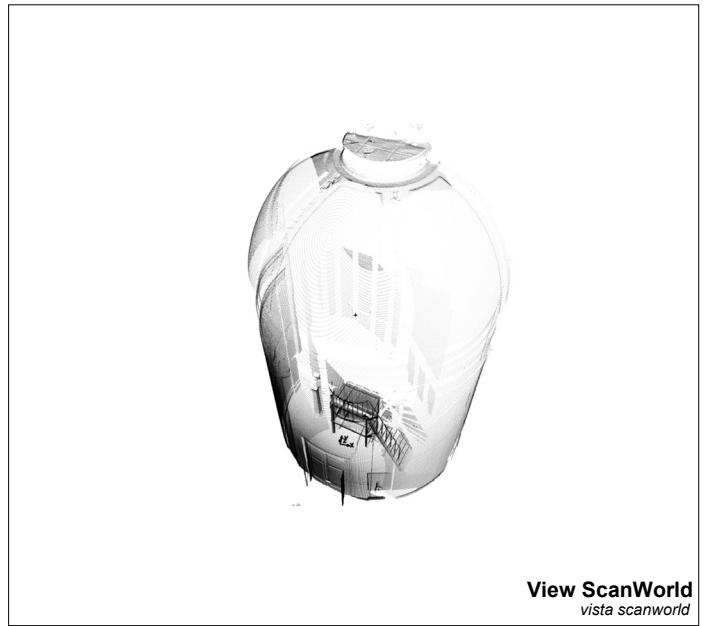
Date 12/11/2007

Time 13.15 h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Blersch - Neira



View ScanWorld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA

Project 071112

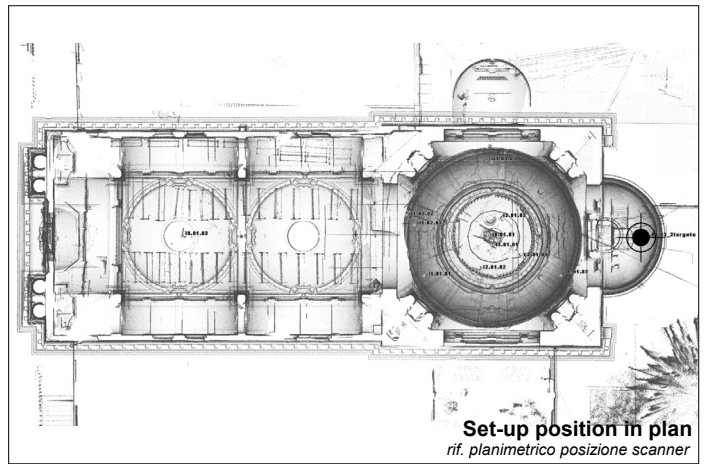
ScanWorld 10.01.03_2targets

Total no. scans 1

Total no. points 329.350

Total no. targets 2

Scanner position



Set-up position in plan

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°] Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Table with columns: Scan, Space Grid, Probe, Point set, Scan Field-of-View, Hz - Window, V - Window. It contains detailed acquisition parameters for Scan 1.

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Igl. H. de la Providencia

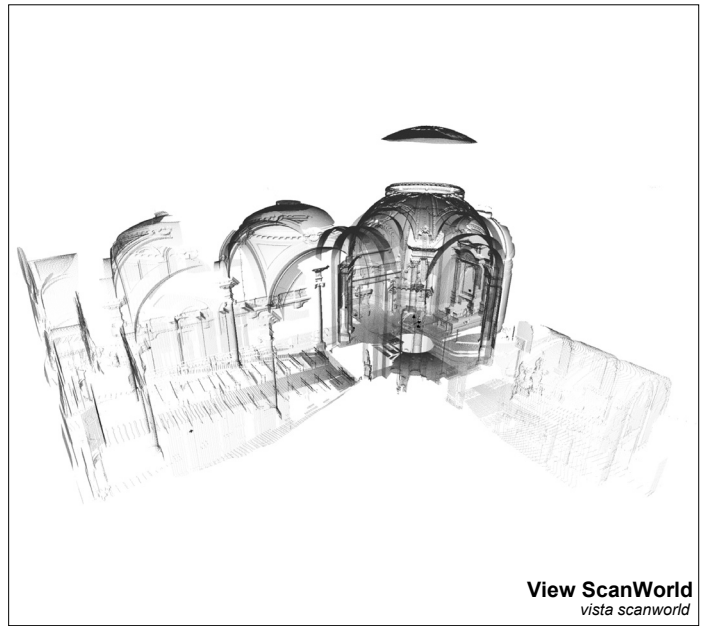
Date 10/11/2007

Time h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Bleresch - Neira - Quevedo



View ScanWorld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA

Project 071110

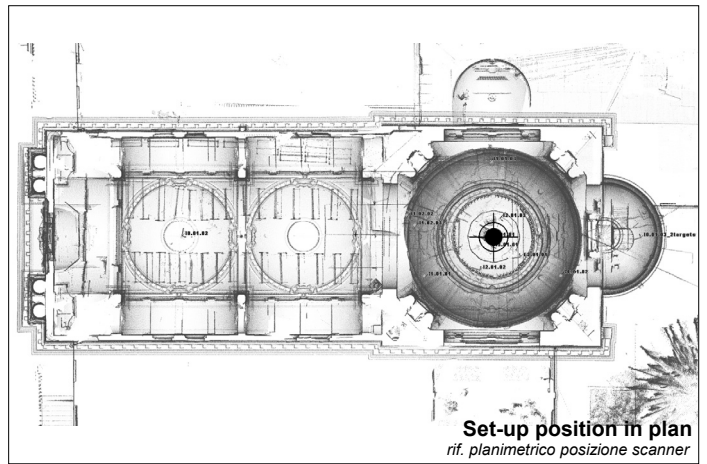
ScanWorld 10.01.01

Total no. scans 3

Total no. points 3.966.156

Total no. targets 12

Scanner position



Set-up position in plan

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°] Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Table with columns: Scan, Space Grid, Probe, Point set, Scan Field-of-View, Hz - Window, V - Window. It contains data for Scan 1, 2, and 4, including X and Y points, sub-total points, and window dimensions.

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place
luogo VALPARAÍSO - CHILE

Object
oggetto Igl. H. de la Providencia

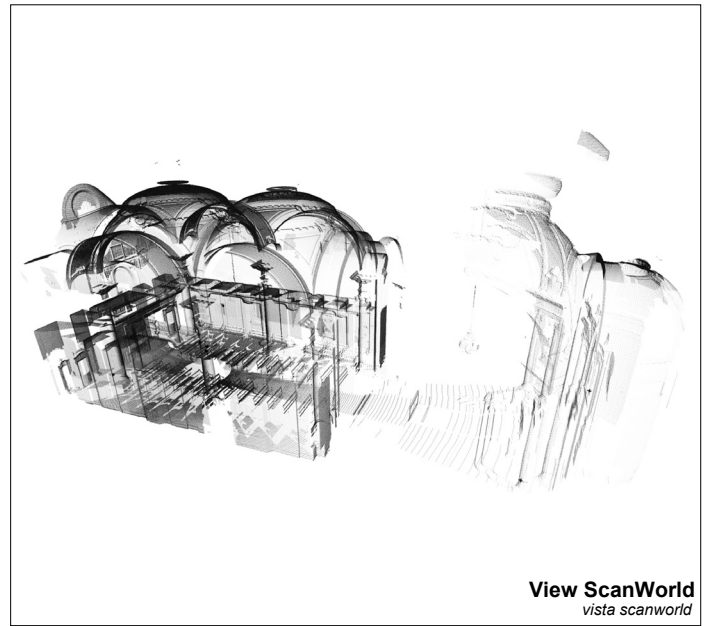
Date
data 10/11/2007

Time
orario h

Scanner - ID
scanner - id no. **Sc**

Scanner type
modello scanner Leica Geosystems
HDS 3000 ScanStation 1

Operator
operatore Blersch - Neira - Quevedo



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp)
nome database (.imp)* IGL_H_PROVIDENCIA

Project
progetto 071110

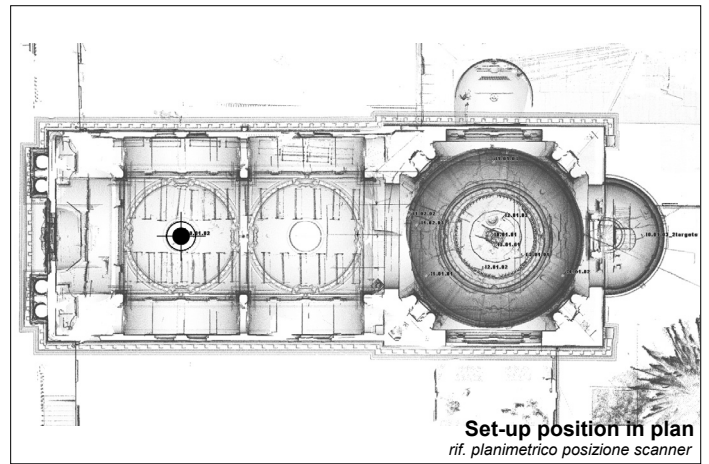
ScanWorld
scanworld 10.01.02

Total no. scans
totale scansioni 3

Total no. points
totale punti 4.065.244

Total no. targets
totale target 4

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution *risoluzione* none

Image Field-of-View *campo di presa immagine*

Hz - Window *apertura orizzontale*

V - Window *apertura verticale*

Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
------------------------------------	-----------------------------------	----------------------------------	-----------------------------------	-------------------------------	----------------------------------

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	941	x 353	332.173	0	360	360	-45	90	135
Scan 2	2 x 2 cm	10 m	3.136	x 1.176	3.687.936	0	360	360	-45	90	135
Scan 3		m	295	x 153	45.135						
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani





IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Igl. H. de la Providencia
oggetto

Date 09/11/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira - Quevedo
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA
nome database (.imp)*

Project 071109
progetto

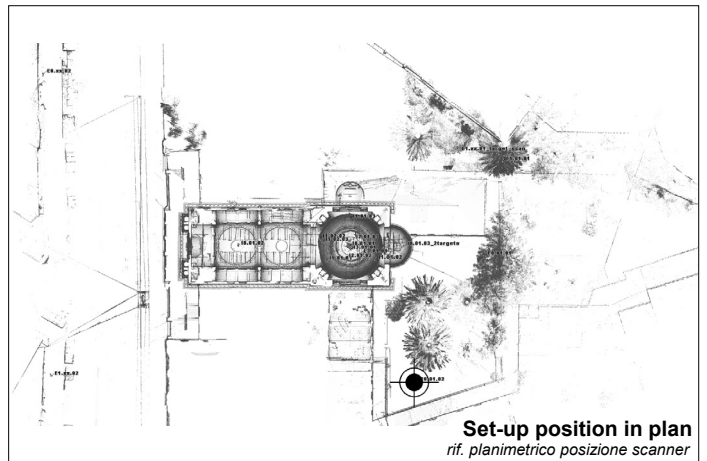
ScanWorld E0.01.02
scanworld

Total no. scans 7
totale scansioni

Total no. points 1.833.696
totale punti

Total no. targets 19
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	942	x 327	308.034	0	360	360	-45	80	125
Scan 2	2 x 2 cm	15 m	619	x 478	295.882	70	117	47	-10	26	36
Scan 3	2 x 2 cm	25 m	609	x 370	225.330	80	108	28	25	42	17
Scan 4		m	730	x 443	323.390						
Scan 5	2 x 2 cm	2 m	624	x 234	146.016	0	360	360	-45	90	135
Scan 16	2 x 2 cm	12 m	480	x 376	180.480	74	120	46	-10	26	36
Scan 17	2 x 2 cm	30 m	756	x 469	354.564	79	108	29	25	43	18
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.

CFR

Consorzio
Ferrara
Ricerche



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Igl. H. de la Providencia
oggetto

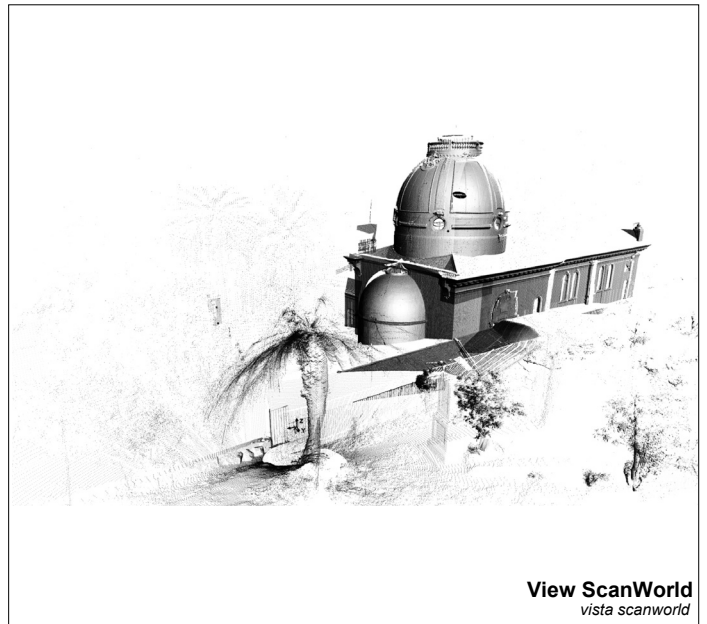
Date 10/11/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA
nome database (.imp)*

Project 071110
progetto

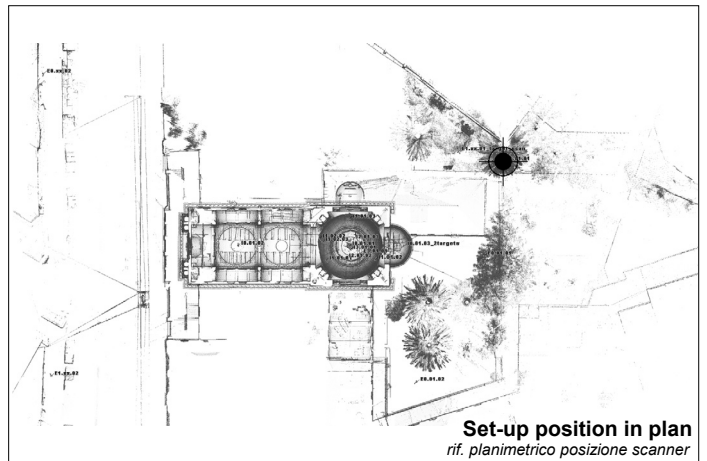
ScanWorld E1.01.01
scanworld

Total no. scans 6
totale scansioni

Total no. points 2.339.475
totale punti

Total no. targets 16
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	938	x 351	329.238	0	360	360	-45	90	135
Scan 2	2 x 2 cm	40 m	1.493	x 560	836.080	199	242	43	-10	9	19
Scan 3	2 x 2 cm	40 m	798	x 687	548.226	209	232	23	8	28	20
Scan 11		m	267	x 724	193.308						
Scan 13	2 x 2 cm	50 m	608	x 348	211.584	231	245	14	-7	9	16
Scan 14	2 x 2 cm	50 m	347	x 637	221.039	224	232	8	3	27	24
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.

CFR

Consorzio
Ferrara
Ricerche



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Igl. H. de la Providencia

Date 12/11/2007

Time 11.45 h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Blersch - Neira



View ScanWorld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA

Project 071112

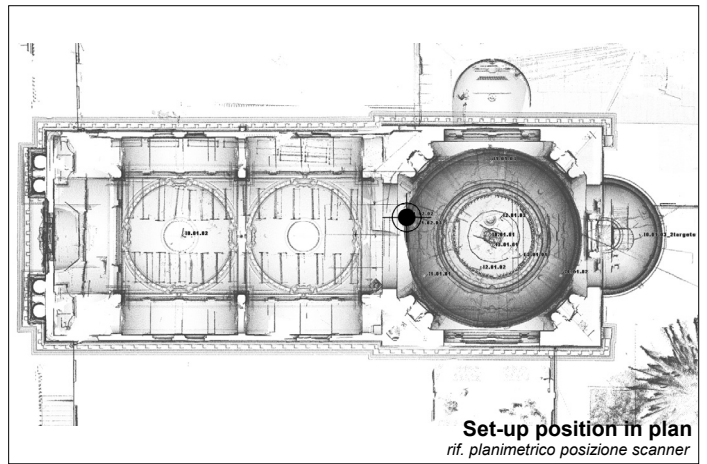
ScanWorld 11.02.02

Total no. scans 2

Total no. points 347.226

Total no. targets 5

Scanner position



Set-up position in plan

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°] Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Table with columns: Scan, Space Grid, Probe, Point set, Scan Field-of-View, Hz - Window, V - Window. Contains data for Scan 1 and Scan 2.

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place
luogo VALPARAÍSO - CHILE

Object
oggetto Igl. H. de la Providencia

Date
data 09/11/2007

Time
orario h

Scanner - ID
scanner - id no. **Sc**

Scanner type
modello scanner Leica Geosystems
HDS 3000 ScanStation 1

Operator
operatore Blersch - Neira - Quevedo



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp)
nome database (.imp)* IGL_H_PROVIDENCIA

Project
progetto 071109

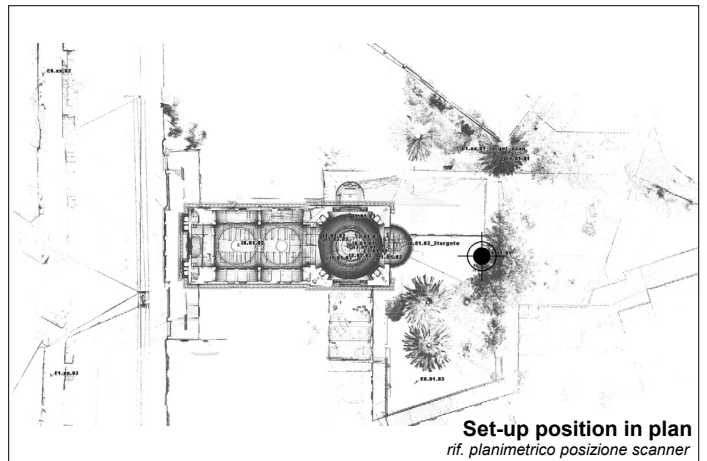
ScanWorld
scanworld E0.01.01

Total no. scans
totale scansioni 6

Total no. points
totale punti 719.192

Total no. targets
totale target 19

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution *risoluzione* none

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] *sinistra* Right [°] *destra* Delta [°] *delta* Bottom [°] *basso* Top [°] *alto* Delta [°] *delta*

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	928	x 353	327.584	0	360	360	-45	90	135
Scan 2		m	480	x 509	244.320						
Scan 3		m	188	x 210	39.480						
Scan 10		m	386	x 210	81.060						
Scan 12		m	102	x 132	13.464						
Scan 13		m	108	x 123	13.284						
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani





IDENTITY

IDENTITA'

Place
luogo VALPARAÍSO - CHILE

Object
oggetto Igl. H. de la Providencia

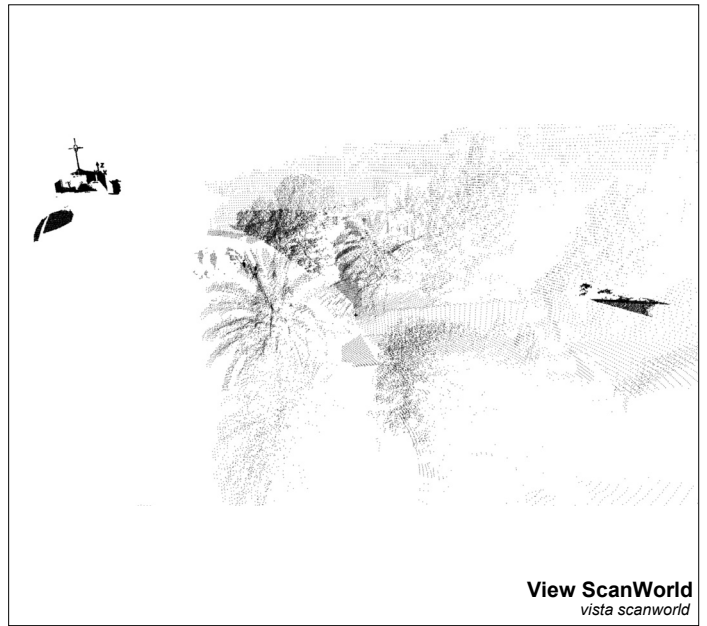
Date
data 11/11/2007

Time
orario h

Scanner - ID
scanner - id no. Sc

Scanner type
modello scanner Leica Geosystems
HDS 3000 ScanStation 1

Operator
operatore Blersch - Neira



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp)
nome database (.imp)* IGL_H_PROVIDENCIA

Project
progetto 071111

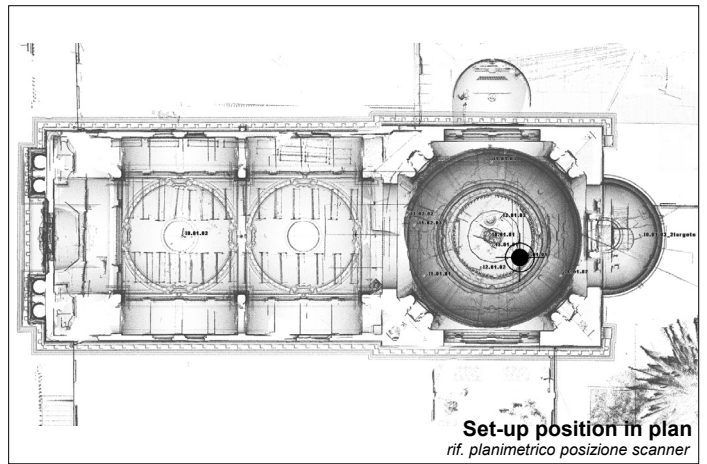
ScanWorld
scanworld E3.01.01

Total no. scans
totale scansioni 5

Total no. points
totale punti 253.817

Total no. targets
totale target 13

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution *risoluzione* none

Image Field-of-View *campo di presa immagine*

Hz - Window *apertura orizzontale*

V - Window *apertura verticale*

Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
-----------------------------	----------------------------	---------------------------	----------------------------	------------------------	---------------------------

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>	V - Window <i>apertura verticale</i>				
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1		m	941	x 141	132.681						
Scan 2		m	300	x 107	32.100						
Scan 3		m	206	x 86	17.716						
Scan 11		m	99	x 396	39.204						
Scan 14		m	217	x 148	32.116						
		m		x							
		m		x							
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Igl. H. de la Providencia

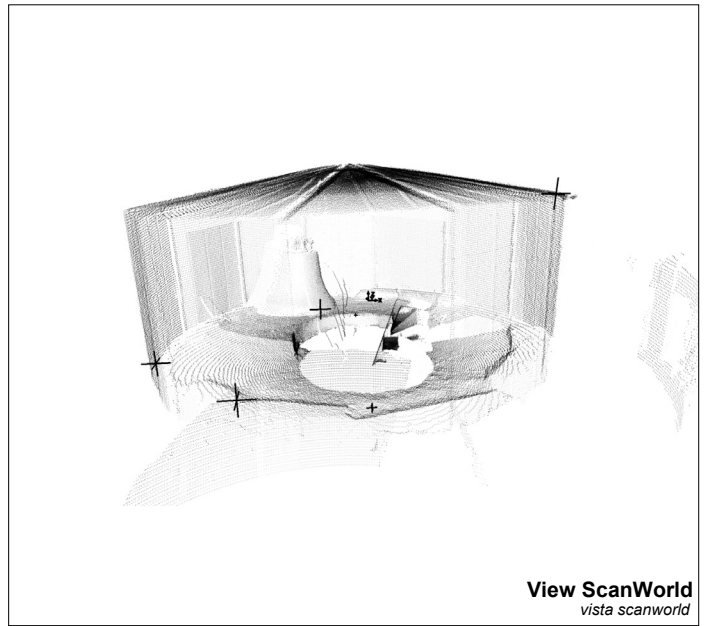
Date 11/11/2007

Time h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Blersch - Neira



View ScanWorld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA

Project 071111

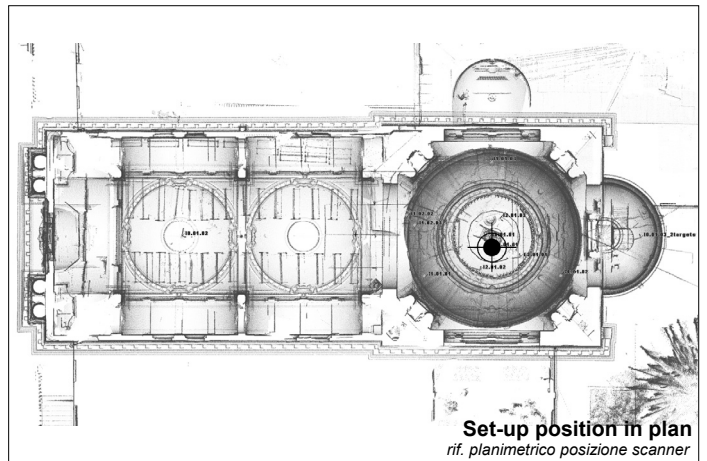
ScanWorld 13.01.01

Total no. scans 2

Total no. points 175.240

Total no. targets 5

Scanner position



Set-up position in plan

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°]

Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Table with columns: Scan, Space Grid, Probe, Point set (X points, Y points, Sub-total points), Scan Field-of-View (Hz - Window, V - Window)

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Igl. H. de la Providencia

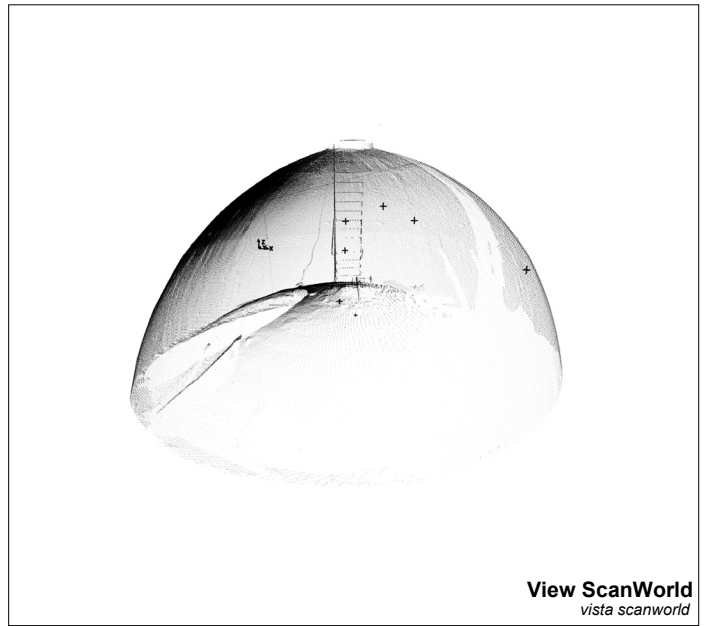
Date 11/11/2007

Time h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Blersch - Neira



View ScanWorld vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA

Project 071111

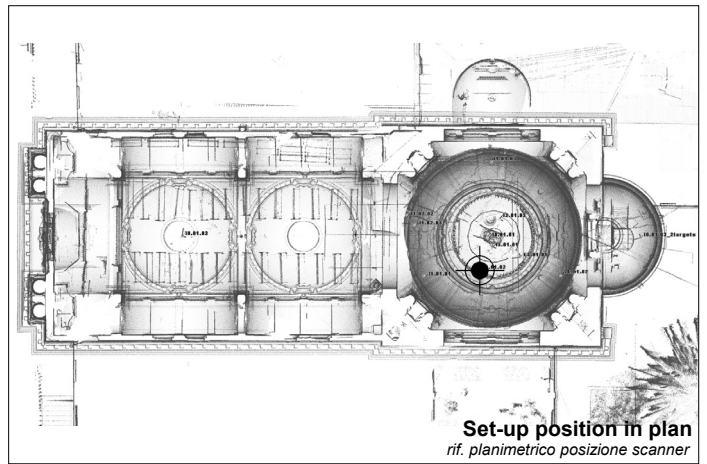
ScanWorld 12.01.02

Total no. scans 1

Total no. points 332.526

Total no. targets 6

Scanner position



Set-up position in plan rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°]

Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Table with columns: Scan, Space Grid, Probe, Point set, Scan Field-of-View, Hz - Window, V - Window. Row 1: Scan 1, 2 x 2 cm, 3 m, 353 x 942, 332.526, 0 360 360, -45 90 135.

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Igl. H. de la Providencia

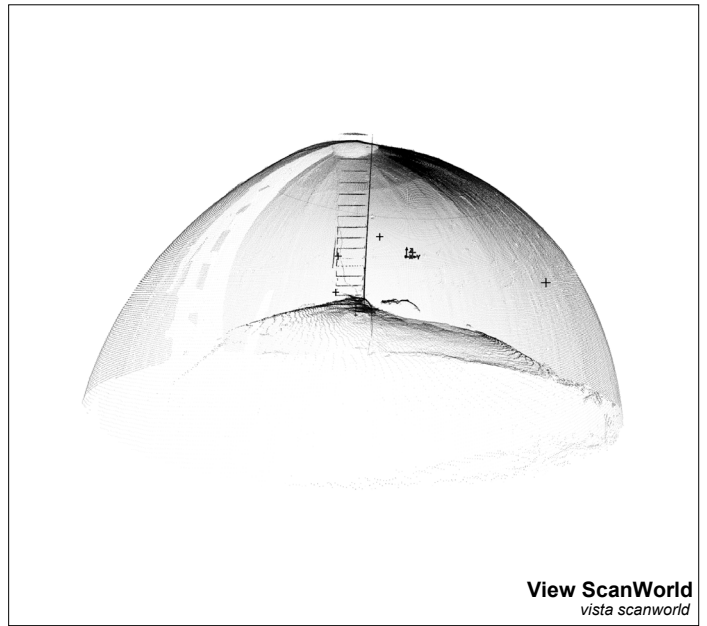
Date 11/11/2007

Time h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Bleresch - Neira



View ScanWorld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA

Project 071111

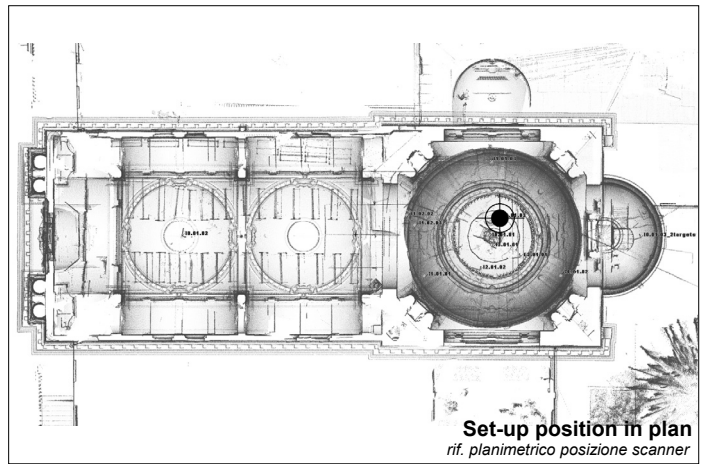
ScanWorld 12.01.03

Total no. scans 1

Total no. points 332.526

Total no. targets 5

Scanner position



Set-up position in plan

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°] Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Table with columns: Scan, Space Grid, Probe, Point set, Scan Field-of-View, Hz - Window, V - Window. It contains detailed acquisition parameters for Scan 1.

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Igl. H. de la Providencia
oggetto

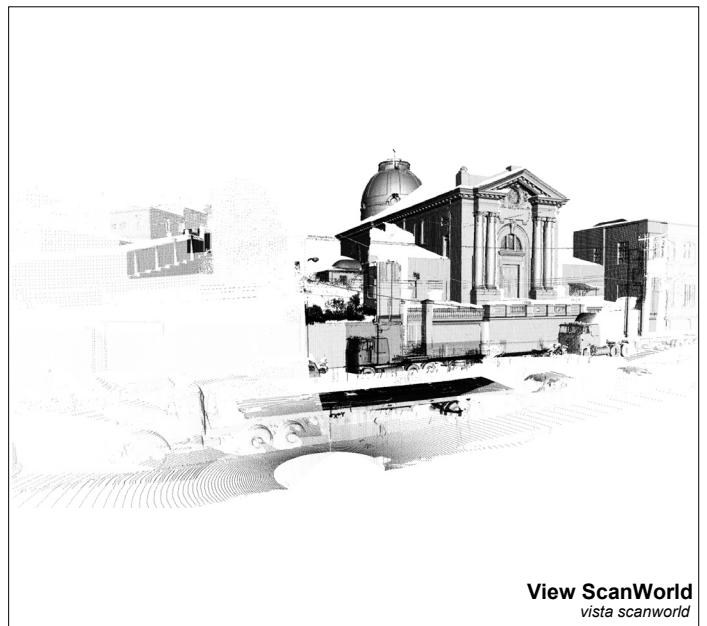
Date 13/11/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA
nome database (.imp)*

Project 071113
progetto

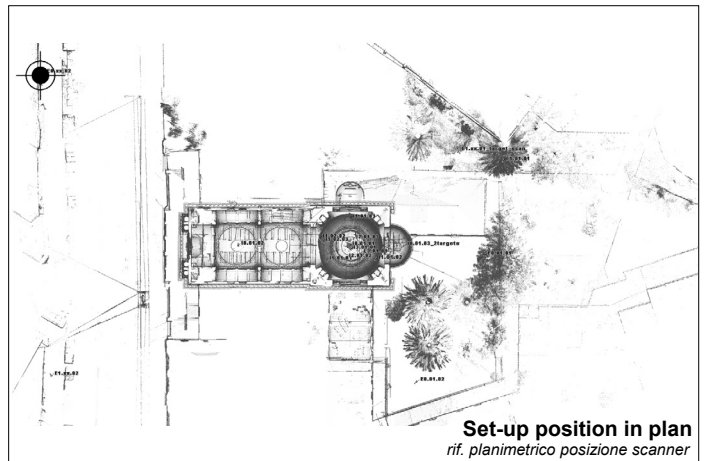
ScanWorld E0.xx.02
scanworld

Total no. scans 7
totale scansioni

Total no. points 4.271.742
totale punti

Total no. targets 11
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View
campo di presa immagine

Hz - Window
apertura orizzontale

V - Window
apertura verticale

Left [°] Right [°] Delta [°]
sinistra destra delta

Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>	V - Window <i>apertura verticale</i>				
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 2		m	616	x 154	94.864						
Scan 3		m	2.264	x 1.661	3.760.504						
Scan 4		m	491	x 453	222.423						
Scan 5		m	719	x 170	122.230						
Scan 7		m	116	x 234	27.144						
Scan 9		m	158	x 117	18.486						
Scan 11		m	223	x 117	26.091						
		m		x							
		m		x							
		m		x							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE

Object Igl. H. de la Providencia

Date 13/11/2007

Time h

Scanner - ID no. Sc

Scanner type Leica Geosystems HDS 3000 ScanStation 1

Operator Blersch - Neira



View ScanWorld vista scanworld

CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA

Project 071113

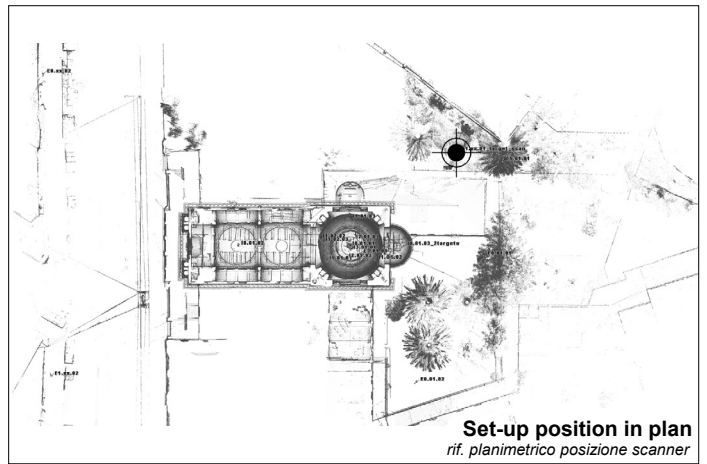
ScanWorld E1.xx.01_target_scan

Total no. scans

Total no. points

Total no. targets 7

Scanner position



Set-up position in plan rif. planimetrico posizione scanner

PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none

Image Field-of-View

Hz - Window

V - Window

Left [°] Right [°] Delta [°]

Bottom [°] Top [°] Delta [°]

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan

Space Grid

Probe

Point set

Scan Field-of-View

X points

Y points

Sub-total points

Hz - Window

V - Window

Left [°] Right [°] Delta [°]

Bottom [°] Top [°] Delta [°]

Scan	Space Grid	Probe	X points	Y points	Sub-total points	Hz - Window	V - Window
			punti in x	punti in y	sub-totale punti	Left [°] Right [°] Delta [°]	Bottom [°] Top [°] Delta [°]
		m	X				
		m	X				
		m	X				
		m	X				
		m	X				
		m	X				
		m	X				
		m	X				
		m	X				
		m	X				
		m	X				

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani



IDENTITY

IDENTITA'

Place VALPARAÍSO - CHILE
luogo

Object Igl. H. de la Providencia
oggetto

Date 13/11/2007
data

Time h
orario

Scanner - ID no. Sc
scanner - id

Scanner type Leica Geosystems
modello scanner HDS 3000 ScanStation 1

Operator Blersch - Neira
operatore



CHARACTERISTICS

CARATTERISTICHE

Database (*.imp) IGL_H_PROVIDENCIA
nome database (.imp)*

Project 071113
progetto

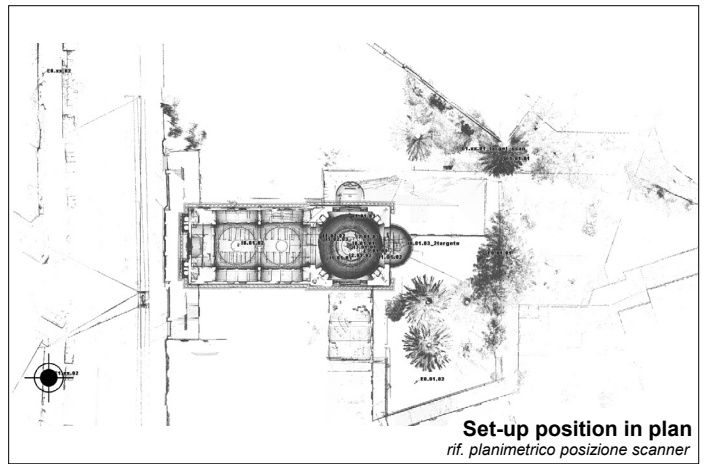
ScanWorld E1.xx.02
scanworld

Total no. scans 3
totale scansioni

Total no. points 3.634.245
totale punti

Total no. targets 8
totale target

Scanner position
posizione scanner



PHOTOGRAPHIC DATA SPECIFICATIONS

SPECIFICHE DATI FOTOGRAFICI

Resolution none
risoluzione

Image Field-of-View campo di presa immagine

Hz - Window apertura orizzontale
Left [°] Right [°] Delta [°]
sinistra destra delta

V - Window apertura verticale
Bottom [°] Top [°] Delta [°]
basso alto delta

SCAN DATA CAPTURE SPECIFICATIONS

SPECIFICHE DATI SCANSIONE IN ACQUISIZIONE

Scan <i>scansione</i>	Space Grid <i>maglia di acquisizione</i>	Probe <i>distanza rif.</i>	Point set <i>impostazione punti</i>			Scan Field-of-View <i>campo di presa scansione</i>					
			X points <i>punti in x</i>	Y points <i>punti in y</i>	Sub-total points <i>sub-totale punti</i>	Hz - Window <i>apertura orizzontale</i>			V - Window <i>apertura verticale</i>		
						Left [°] <i>sinistra</i>	Right [°] <i>destra</i>	Delta [°] <i>delta</i>	Bottom [°] <i>basso</i>	Top [°] <i>alto</i>	Delta [°] <i>delta</i>
Scan 1	2 x 2 cm	3 m	942	x 235	221.370	0	360	360	-45	90	135
Scan 2		m	2.125	x 1.583	3.363.875						
Scan 3		m	140	x 350	49.000						
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							
		m		X							

Scientific Responsible / responsabile scientifico: Prof. Marcello Balzani

APPENDIX II

TOPOGRAPHICAL SURVEY DATA SHEETS:

IGLESIA LA MATRIZ DEL BARRIO PUERTO



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.

CFR

**Consorzio
Ferrara
Ricerche**

071128_TopographyLaMatriz.txt

TOPOGRAPHICAL SURVEY OF THE LEICA GEOSYS. HDS 3000 SCANSTATION 1 TARGET SET AT THE LA MATRIZ CHURCH IN VALPARAÍSO, CHILE.

OUTPUT DATA MODEL FROM TOTAL STATION

Pto	N	E	Z	Código	Obs
0	1000	2000	300	Estación1	
2	1011,736		2004,575		301,764 TARGET Outside
3	1023,635		2036,592		301,085 TARGET Outside
4	1013,173		2038,915		299,196 TARGET Outside
5	995,455	2013,981		302,390	TARGET Outside
0	994,893	1972,332		302,041	Estación2
7	1012,643		1970,940		305,273 TARGET Inside
8	1006,439		1988,309		310,640 TARGET Inside
9	990,421	1991,789		310,622	TARGET Inside
10	965,445	1980,890		305,730	TARGET Outside
11	964,868	1975,148		305,975	TARGET Outside
12	983,756	1955,793		306,030	TARGET Inside
13	986,639	1946,183		304,247	TARGET Inside
14	994,287	1944,880		305,885	TARGET Inside

Operated by Marco Quevedo Tapia and Osvaldo Neira Figueroa on November 26, 2007 Geocom Santiago, Chile

INPUT DATA MODEL FOR 3D LASER SCANNING DIGITAL ENVIRONMENT AND PREDISPOSITION FOR REGISTERING WITH POINT CLOUD SCAN MODEL

Pto	N	E	Z	Código	Obs
0	10.00	20.00	3.00	Estación1	
016	10.11736	20.04575	3.01764	HDS Target	Outside
017	10.23635	20.36592	3.01085	HDS Target	Outside
018	10.13173	20.38915	2.99196	HDS Target	Outside
020	9.95455	20.13981	3.02390	HDS Target	Outside
0	9.94893	19.72332	3.02041	Estación2	
027	10.12643	19.70940	3.05273	HDS Target	Inside
028	10.06439	19.88309	3.10640	HDS Target	
Outside_corr					
029	9.90421	19.91789	3.10622	HDS Target	Inside
022	9.65445	19.80890	3.05730	HDS Target	Outside
023	9.64868	19.75148	3.05975	HDS Target	Outside
007	9.83756	19.55793	3.06030	HDS Target	Inside
005	9.86639	19.46183	3.04247	HDS Target	Inside
006	9.94287	19.44880	3.05885	HDS Target	Inside

Data elaboration by Daniel Blersch on November 28, 2007 @ DAIPReM Development of Integrated Automatic Procedures for Restoration of Monuments Department of Architecture - University of Ferrara, Italy

APPENDIX III/a

POINT CLOUD REGISTRATION DIAGNOSTICS AND CONSTRAINT CONTROL:

IGLESIA LA MATRIZ DEL BARRIO PUERTO



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.

CFR

Consorzio
Ferrara
Ricerche

IGLESIA LA MATRIZ DEL BARRIO PUERTO, VALPARAÍSO, CHILE

SCANWORLD REGISTER REPORT OF FINAL REGISTERING BY DANIEL BLERSCH @ DIAPReM
Development of Integrated Automatic Procedures for Restoration of Monuments
DEPARTMENT OF ARCHITECTURE - UNIVERSITY OF FERRARA - ITALY
NOVEMBER 29, 2007

Status: VALID Registration

Mean Absolute Error:

for Enabled Constraints = 0.002 m

for Disabled Constraints = 0.045 m

Date: 2008.02.24 17:05:48

Database name : IGLESIA_LA_MATRIZ

ScanWorlds:

071129_TopoLaMATRIZ_NEZ_def_cm (Levelled)

I0.01.01 (Levelled)

I0.01.02 (Levelled)

I0.01.06_princ

I0.05.03_princ

I0.01.07

I0.01.05

I0.01.03 (Levelled)

I0.01.04 (Levelled)

I1.01.05

I1.01.04

I1.01.03 (Levelled)

I1.01.01

I1.01.02

I0.04.01

I0.05.02

I0.05.01

E0.05.04

E0.05.06

E0.05.05

CL.VAP_MZ_ROOF

ScanWorld 1 (Levelled)

ScanWorld 2 (Levelled)

ScanWorld 3 (Levelled)

IGLESIA LA MATRIZ DEL BARRIO PUERTO, VALPARAÍSO, CHILE

SCANWORLD REGISTER REPORT OF FINAL REGISTERING BY DANIEL BLERSCH @ DIAPReM
Development of Integrated Automatic Procedures for Restoration of Monuments
DEPARTMENT OF ARCHITECTURE - UNIVERSITY OF FERRARA - ITALY
NOVEMBER 29, 2007

Status: VALID Registration

Mean Absolute Error:

for Enabled Constraints = 0.002 m

for Disabled Constraints = 0.045 m

Date: 2008.02.24 17:05:48

Database name : IGLESIA_LA_MATRIZ

ScanWorlds:

071129_TopolAMATRIZ_NEZ_def_cm (Leveled)

I0.01.01 (Leveled)

I0.01.02 (Leveled)

I0.01.06_princ

I0.05.03_princ

I0.01.07

I0.01.05

I0.01.03 (Leveled)

I0.01.04 (Leveled)

I1.01.05

I1.01.04

I1.01.03 (Leveled)

I1.01.01

I1.01.02

I0.04.01

I0.05.02

I0.05.01

E0.05.04

E0.05.06

E0.05.05

CL.VAP_MZ_ROOF

ScanWorld 1 (Leveled)

ScanWorld 2 (Leveled)

ScanWorld 3 (Leveled)

Constraints

Name		Scanworld Horz vert	ScanWorld	Type	on/off	Weight	Error	Error Vector
TargetID: 028 (-0.001 ,	-0.001, 0.000) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.002 m 0.000 m	I0.01.01 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.002 m	
TargetID: 029 (-0.004 ,	0.000, 0.000) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.004 m 0.000 m	I0.01.01 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.004 m	
TargetID: 007 (0.002 ,	0.002, -0.001) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.003 m -0.001 m	I0.01.01 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.003 m	
TargetID: 029 (-0.004 ,	-0.001, 0.000) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.004 m 0.000 m	I0.01.02 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.004 m	
TargetID: 007 (0.002 ,	0.003, -0.001) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.003 m -0.001 m	I0.01.02 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.003 m	
TargetID: 006 (0.004 ,	-0.003, -0.001) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.005 m -0.001 m	I0.01.02 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.005 m	
TargetID: 007 (0.000 ,	0.001, 0.000) m	I0.01.01 (Leveled) 0.001 m 0.000 m	I0.01.02 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.001 m	
TargetID: 030 (-0.001 ,	0.000, 0.000) m	I0.01.01 (Leveled) 0.001 m 0.000 m	I0.01.02 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.001 m	
TargetID: 029 (0.000 ,	-0.001, 0.000) m	I0.01.01 (Leveled) 0.001 m 0.000 m	I0.01.02 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.001 m	
TargetID: 005 (0.001 ,	0.001, 0.001) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.001 m 0.001 m	I0.01.06_princ	Coincident: Vertex-Vertex	on	1.0000	0.001 m	
TargetID: 006 (0.004 ,	-0.002, -0.001) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.004 m -0.001 m	I0.01.06_princ	Coincident: Vertex-Vertex	on	1.0000	0.004 m	
TargetID: 027 (-0.001 ,	-0.001, 0.001) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.001 m 0.001 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.002 m	
TargetID: 029 (-0.004 ,	-0.001, 0.000) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.004 m 0.000 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.004 m	
TargetID: 022 (-0.003 ,	-0.001, 0.000) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.003 m 0.000 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.003 m	
TargetID: 023 (0.000 ,	0.001, 0.000) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.001 m 0.000 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.001 m	
TargetID: 007 (0.002 ,	0.001, -0.001) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.002 m -0.001 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.002 m	
TargetID: 005 (0.000 ,	0.000, 0.001) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.000 m 0.001 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.001 m	
TargetID: 006 (0.003 ,	-0.002, -0.001) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.003 m -0.001 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.003 m	
TargetID: 010 (-0.001 ,	0.000, 0.001) m	I0.01.01 (Leveled) 0.001 m 0.001 m	I0.01.06_princ	Coincident: Vertex-Vertex	on	1.0000	0.001 m	
TargetID: 010 (0.000 ,	0.001, 0.001) m	I0.01.01 (Leveled) 0.001 m 0.001 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.001 m	
TargetID: 007 (0.000 ,	-0.001, 0.000) m	I0.01.01 (Leveled) 0.001 m 0.000 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.001 m	
TargetID: 029 (0.001 ,	-0.001, 0.000) m	I0.01.01 (Leveled) 0.001 m 0.000 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.001 m	
TargetID: 011 (0.000 ,	-0.001, 0.000) m	I0.01.02 (Leveled) 0.001 m 0.000 m	I0.01.06_princ	Coincident: Vertex-Vertex	on	1.0000	0.001 m	
TargetID: 006 (-0.001 ,	0.000, 0.000) m	I0.01.02 (Leveled) 0.001 m 0.000 m	I0.01.06_princ	Coincident: Vertex-Vertex	on	1.0000	0.001 m	
TargetID: 007 (0.000 ,	-0.001, 0.000) m	I0.01.02 (Leveled) 0.001 m 0.000 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.001 m	
TargetID: 029 (0.001 ,	0.000, 0.000) m	I0.01.02 (Leveled) 0.001 m 0.000 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.001 m	
TargetID: 011 (0.002 ,	0.000, 0.000) m	I0.01.02 (Leveled) 0.002 m 0.000 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.002 m	
TargetID: 006 (-0.002 ,	0.001, 0.000) m	I0.01.02 (Leveled) 0.002 m 0.000 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.002 m	
TargetID: 005 (-0.001 ,	-0.001, 0.000) m	I0.01.06_princ 0.002 m 0.000 m	I0.05.03_princ	Coincident: Vertex-Vertex	on	1.0000	0.002 m	

TargetID: (Offset)	Coordinates (X, Y, Z) m	Local Coordinates (X, Y, Z) m	Level	Reference ID	Type	Offset	Tolerance	Status
TargetID: 006 (-0.001)	0.000, 0.000	10.01.06_princ 0.001 m 0.000 m		10.05.03_princ	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 010 (0.001)	0.001, 0.000	10.01.06_princ 0.001 m 0.000 m		10.05.03_princ	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 009 (0.002)	0.000, 0.000	10.01.06_princ 0.002 m 0.000 m		10.05.03_princ	Coincident: Vertex-Vertex	on	1.0000 0.002 m	
TargetID: 011 (0.002)	0.000, 0.000	10.01.06_princ 0.002 m 0.000 m		10.05.03_princ	Coincident: Vertex-Vertex	on	1.0000 0.002 m	
TargetID: 018 (-0.072)	-0.027, 0.002	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.077 m 0.002 m		10.01.07	Coincident: Vertex-Vertex	off	1.0000 0.077 m	
TargetID: 005 (0.000)	0.000, 0.001	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.000 m 0.001 m		10.01.07	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 006 (0.004)	-0.002, -0.001	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.005 m -0.001 m		10.01.07	Coincident: Vertex-Vertex	off	1.0000 0.005 m	
TargetID: 030 (0.000)	0.000, 0.000	10.01.01 (Leveled) 0.001 m 0.000 m		10.01.07	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 030 (0.000)	0.000, 0.000	10.01.02 (Leveled) 0.000 m 0.000 m		10.01.07	Coincident: Vertex-Vertex	on	1.0000 0.000 m	
TargetID: 006 (0.000)	0.001, 0.000	10.01.02 (Leveled) 0.001 m 0.000 m		10.01.07	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 005 (0.000)	-0.001, 0.000	10.01.06_princ 0.001 m 0.000 m		10.01.07	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 006 (0.000)	0.000, 0.000	10.01.06_princ 0.001 m 0.000 m		10.01.07	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 043 (-0.001)	0.002, 0.000	10.05.03_princ 0.002 m 0.000 m		10.01.07	Coincident: Vertex-Vertex	on	1.0000 0.002 m	
TargetID: 037 (0.000)	-0.001, -0.001	10.05.03_princ 0.001 m -0.001 m		10.01.07	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 006 (0.002)	0.000, 0.000	10.05.03_princ 0.002 m 0.000 m		10.01.07	Coincident: Vertex-Vertex	on	1.0000 0.002 m	
TargetID: 005 (0.001)	0.001, 0.000	10.05.03_princ 0.001 m 0.000 m		10.01.07	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 016 (-0.067)	-0.019, 0.001	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.069 m 0.001 m		10.01.05	Coincident: Vertex-Vertex	off	1.0000 0.069 m	
TargetID: 017 (-0.065)	-0.027, 0.003	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.070 m 0.003 m		10.01.05	Coincident: Vertex-Vertex	off	1.0000 0.070 m	
TargetID: 018 (-0.072)	-0.027, 0.001	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.077 m 0.001 m		10.01.05	Coincident: Vertex-Vertex	off	1.0000 0.077 m	
TargetID: 020 (-0.070)	-0.021, 0.000	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.073 m 0.000 m		10.01.05	Coincident: Vertex-Vertex	off	1.0000 0.073 m	
TargetID: 005 (0.000)	0.000, 0.000	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.000 m 0.000 m		10.01.05	Coincident: Vertex-Vertex	off	1.0000 0.000 m	
TargetID: 006 (0.002)	-0.002, 0.000	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.003 m 0.000 m		10.01.05	Coincident: Vertex-Vertex	off	1.0000 0.003 m	
TargetID: 006 (-0.002)	0.001, 0.001	10.01.02 (Leveled) 0.002 m 0.001 m		10.01.05	Coincident: Vertex-Vertex	on	1.0000 0.002 m	
TargetID: 005 (0.000)	-0.001, -0.001	10.01.06_princ 0.001 m -0.001 m		10.01.05	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 006 (-0.001)	0.001, 0.001	10.01.06_princ 0.001 m 0.001 m		10.01.05	Coincident: Vertex-Vertex	on	1.0000 0.002 m	
TargetID: 006 (0.000)	0.000, 0.001	10.05.03_princ 0.001 m 0.001 m		10.01.05	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 005 (0.001)	0.000, -0.001	10.05.03_princ 0.001 m -0.001 m		10.01.05	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 019 (-0.001)	0.000, -0.001	10.05.03_princ 0.001 m -0.001 m		10.01.05	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 005 (0.000)	0.000, -0.001	10.01.07 0.000 m -0.001 m		10.01.05	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 018 (0.000)	0.001, -0.001	10.01.07 0.001 m -0.001 m		10.01.05	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 006 (-0.002)	0.000, 0.001	10.01.07 0.002 m 0.001 m		10.01.05	Coincident: Vertex-Vertex	on	1.0000 0.002 m	
TargetID: 020 (-0.071)	-0.022, 0.001	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.074 m 0.001 m		10.01.03 (Leveled)	Coincident: Vertex-Vertex	off	1.0000 0.074 m	
TargetID: 007 (0.002)	0.001, -0.001	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.002 m -0.001 m		10.01.03 (Leveled)	Coincident: Vertex-Vertex	off	1.0000 0.002 m	
TargetID: 016 (-0.068)	-0.017, 0.002	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.070 m 0.002 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	off	1.0000 0.070 m	
TargetID: 017 (-0.066)	-0.027, 0.003	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.071 m 0.003 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	off	1.0000 0.071 m	
TargetID: 018 (-0.072)	-0.028, 0.002	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.077 m 0.002 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	off	1.0000 0.077 m	
TargetID: 007 (0.002)	0.002, -0.001	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.003 m -0.001 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	off	1.0000 0.003 m	
TargetID: 005 (0.001)	0.000, 0.000	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.001 m 0.000 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	off	1.0000 0.001 m	
TargetID: 007 (0.000)	-0.001, -0.001	10.01.01 (Leveled) 0.001 m -0.001 m		10.01.03 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 030 (0.000)	0.002, 0.000	10.01.01 (Leveled) 0.002 m 0.000 m		10.01.03 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.002 m	
TargetID: 010 (-0.001)	-0.001, 0.001	10.01.01 (Leveled) 0.001 m 0.001 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 007 (0.000)	0.000, 0.000	10.01.01 (Leveled) 0.000 m 0.000 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.000 m	
TargetID: 030 (0.000)	0.001, -0.001	10.01.01 (Leveled) 0.001 m -0.001 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 030 (0.000)	0.001, 0.000	10.01.02 (Leveled) 0.001 m 0.000 m		10.01.03 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 007 (0.000)	-0.001, 0.000	10.01.02 (Leveled) 0.001 m 0.000 m		10.01.03 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 011 (0.001)	0.001, 0.000	10.01.02 (Leveled) 0.001 m 0.000 m		10.01.03 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 030 (0.001)	0.001, 0.000	10.01.02 (Leveled) 0.001 m 0.000 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 007 (0.000)	-0.001, 0.000	10.01.02 (Leveled) 0.001 m 0.000 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 011 (0.001)	0.001, 0.000	10.01.06_princ 0.001 m 0.000 m		10.01.03 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 005 (0.000)	-0.001, -0.001	10.01.06_princ 0.001 m -0.001 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 010 (0.000)	-0.001, 0.000	10.01.06_princ 0.001 m 0.000 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 011 (-0.001)	0.001, 0.000	10.05.03_princ 0.001 m 0.000 m		10.01.03 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 043 (0.001)	0.001, 0.001	10.05.03_princ 0.001 m 0.001 m		10.01.03 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.002 m	
TargetID: 007 (0.000)	0.000, -0.001	10.05.03_princ 0.000 m -0.001 m		10.01.03 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 019 (-0.002)	0.001, -0.001	10.05.03_princ 0.002 m -0.001 m		10.01.03 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.002 m	
TargetID: 010 (-0.001)	-0.002, 0.000	10.05.03_princ 0.002 m 0.000 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.002 m	
TargetID: 005 (0.001)	0.000, 0.000	10.05.03_princ 0.001 m 0.000 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	
TargetID: 007 (0.000)	0.001, 0.000	10.05.03_princ 0.001 m 0.000 m		10.01.04 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.001 m	

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TargetID: 032 (0.000 ,	0.000, 0.000) m	I0.01.06_princ 0.000 m 0.000 m	I0.04.01	Coincident: Vertex-Vertex	on	1.0000 0.000 m
TargetID: 031 (0.000 ,	-0.001, 0.000) m	I0.01.06_princ 0.001 m 0.000 m	I0.04.01	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 014 (0.000 ,	0.000, 0.000) m	I0.01.06_princ 0.000 m 0.000 m	I0.04.01	Coincident: Vertex-Vertex	on	1.0000 0.000 m
TargetID: 015 (0.000 ,	0.001, 0.000) m	I0.01.06_princ 0.001 m 0.000 m	I0.04.01	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 014 (0.000 ,	0.001, 0.000) m	I0.01.06_princ 0.001 m 0.000 m	I0.05.02	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 015 (0.000 ,	0.000, 0.000) m	I0.01.06_princ 0.000 m 0.000 m	I0.05.02	Coincident: Vertex-Vertex	on	1.0000 0.000 m
TargetID: 013 (0.001 ,	-0.001, 0.000) m	I0.05.03_princ 0.001 m 0.000 m	I0.05.02	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 012 (-0.001 ,	0.000, 0.000) m	I0.05.03_princ 0.001 m 0.000 m	I0.05.02	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 014 (0.000 ,	0.001, 0.000) m	I0.04.01 0.001 m 0.000 m	I0.05.02	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 015 (0.000 ,	-0.001, 0.000) m	I0.04.01 0.001 m 0.000 m	I0.05.02	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 002 (0.000 ,	0.000, 0.001) m	I0.04.01 0.000 m 0.001 m	I0.05.01	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 001 (0.000 ,	0.000, -0.001) m	I0.04.01 0.000 m -0.001 m	I0.05.01	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 003 (0.000 ,	0.000, 0.000) m	I0.04.01 0.000 m 0.000 m	I0.05.01	Coincident: Vertex-Vertex	on	1.0000 0.000 m
TargetID: 004 (0.000 ,	0.000, 0.000) m	I0.04.01 0.000 m 0.000 m	I0.05.01	Coincident: Vertex-Vertex	on	1.0000 0.000 m
TargetID: 022 (-0.001 ,	0.000, 0.001) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.001 m 0.001 m	E0.05.06	Coincident: Vertex-Vertex	on	1.0000 0.002 m
TargetID: 023 (0.001 ,	0.003, 0.001) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.003 m 0.001 m	E0.05.06	Coincident: Vertex-Vertex	on	1.0000 0.004 m
TargetID: 016 (-0.065 ,	-0.022, -0.001) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.069 m -0.001 m	E0.05.05	Coincident: Vertex-Vertex	off	1.0000 0.069 m
TargetID: 017 (-0.068 ,	-0.026, 0.003) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.073 m 0.003 m	E0.05.05	Coincident: Vertex-Vertex	off	1.0000 0.073 m
TargetID: 018 (-0.071 ,	-0.027, 0.002) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.076 m 0.002 m	E0.05.05	Coincident: Vertex-Vertex	off	1.0000 0.076 m
TargetID: 027 (-0.001 ,	0.000, 0.003) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.001 m 0.003 m	E0.05.05	Coincident: Vertex-Vertex	off	1.0000 0.003 m
TargetID: 019 (-0.001 ,	0.000, -0.001) m	I0.05.03_princ 0.001 m -0.001 m	E0.05.06	Coincident: Vertex-Vertex	on	1.0000 0.002 m
TargetID: 022 (0.001 ,	0.001, 0.000) m	I0.05.03_princ 0.001 m 0.000 m	E0.05.06	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 023 (0.002 ,	0.002, 0.001) m	I0.05.03_princ 0.003 m 0.001 m	E0.05.06	Coincident: Vertex-Vertex	on	1.0000 0.003 m
TargetID: 025 (-0.002 ,	-0.006, 0.004) m	I0.05.03_princ 0.007 m 0.004 m	E0.05.06	Coincident: Vertex-Vertex	on	1.0000 0.008 m
TargetID: 026 (0.003 ,	-0.013, -0.002) m	I0.05.03_princ 0.014 m -0.002 m	E0.05.06	Coincident: Vertex-Vertex	on	1.0000 0.014 m
TargetID: 027 (0.000 ,	0.001, 0.001) m	I0.05.03_princ 0.001 m 0.001 m	E0.05.05	Coincident: Vertex-Vertex	on	1.0000 0.002 m
TargetID: 021 (-0.001 ,	0.001, 0.001) m	I0.05.03_princ 0.002 m 0.001 m	E0.05.05	Coincident: Vertex-Vertex	on	1.0000 0.002 m
TargetID: 018 (0.001 ,	0.000, 0.000) m	I0.01.07 0.001 m 0.000 m	E0.05.05	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 019 (0.000 ,	0.000, 0.000) m	I0.01.05 0.001 m 0.000 m	E0.05.06	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 017 (-0.004 ,	0.000, 0.000) m	I0.01.05 0.004 m 0.000 m	E0.05.05	Coincident: Vertex-Vertex	on	1.0000 0.004 m
TargetID: 016 (0.002 ,	-0.003, -0.002) m	I0.01.05 0.003 m -0.002 m	E0.05.05	Coincident: Vertex-Vertex	on	1.0000 0.004 m
TargetID: 018 (0.001 ,	0.000, 0.001) m	I0.01.05 0.001 m 0.001 m	E0.05.05	Coincident: Vertex-Vertex	on	1.0000 0.002 m
TargetID: 019 (0.001 ,	-0.001, 0.000) m	I0.01.03 (Leveled) 0.001 m 0.000 m	E0.05.06	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 019 (0.000 ,	0.001, 0.000) m	I0.01.04 (Leveled) 0.001 m 0.000 m	E0.05.06	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 018 (0.001 ,	0.001, 0.000) m	I0.01.04 (Leveled) 0.002 m 0.000 m	E0.05.05	Coincident: Vertex-Vertex	on	1.0000 0.002 m
TargetID: 017 (-0.003 ,	0.001, 0.000) m	I0.01.04 (Leveled) 0.003 m 0.000 m	E0.05.05	Coincident: Vertex-Vertex	on	1.0000 0.003 m
TargetID: 016 (0.003 ,	-0.005, -0.003) m	I0.01.04 (Leveled) 0.005 m -0.003 m	E0.05.05	Coincident: Vertex-Vertex	on	1.0000 0.006 m
TargetID: 035 (0.000 ,	0.000, 0.000) m	E0.05.04 0.000 m 0.000 m	E0.05.05	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 033 (-0.001 ,	0.000, -0.001) m	E0.05.04 0.001 m -0.001 m	E0.05.05	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 034 (0.000 ,	0.001, 0.001) m	E0.05.04 0.001 m 0.001 m	E0.05.05	Coincident: Vertex-Vertex	on	1.0000 0.002 m
TargetID: 036 (0.001 ,	0.000, -0.001) m	E0.05.04 0.001 m -0.001 m	E0.05.05	Coincident: Vertex-Vertex	on	1.0000 0.001 m
TargetID: 020 (-0.075 ,	-0.009, -0.008) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.075 m -0.008 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	off	1.0000 0.075 m
TargetID: 022 (-0.001 ,	0.003, -0.001) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.004 m -0.001 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	on	1.0000 0.004 m
TargetID: 023 (0.001 ,	0.003, 0.002) m	071129_TopolAMATRIZ_NEZ_def_cm (Leveled) 0.003 m 0.002 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	off	1.0000 0.004 m
TargetID: 019 (0.000 ,	-0.005, 0.003) m	I0.05.03_princ 0.005 m 0.003 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	on	1.0000 0.006 m
TargetID: 022 (0.002 ,	0.004, -0.002) m	I0.05.03_princ 0.005 m -0.002 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	on	1.0000 0.005 m
TargetID: 023 (0.001 ,	0.002, 0.002) m	I0.05.03_princ 0.003 m 0.002 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	on	1.0000 0.003 m
TargetID: 019 (0.001 ,	-0.005, 0.003) m	I0.01.05 0.006 m 0.003 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	on	1.0000 0.006 m
TargetID: 020 (-0.004 ,	0.013, -0.009) m	I0.01.05 0.013 m -0.009 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	on	1.0000 0.016 m
TargetID: 020 (-0.004 ,	0.013, -0.009) m	I0.01.03 (Leveled) 0.014 m -0.009 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	on	1.0000 0.017 m
TargetID: 019 (0.002 ,	-0.006, 0.004) m	I0.01.03 (Leveled) 0.006 m 0.004 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	on	1.0000 0.007 m
TargetID: 019 (0.001 ,	-0.005, 0.003) m	I0.01.04 (Leveled) 0.005 m 0.003 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	on	1.0000 0.006 m
TargetID: 019 (0.001 ,	-0.005, 0.003) m	E0.05.06 0.005 m 0.003 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	on	1.0000 0.006 m
TargetID: 024 (0.001 ,	-0.009, 0.006) m	E0.05.06 0.009 m 0.006 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	on	1.0000 0.011 m
TargetID: 022 (0.000 ,	0.004, -0.002) m	E0.05.06 0.004 m -0.002 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	on	1.0000 0.004 m
TargetID: 023 (0.000 ,	0.000, 0.000) m	E0.05.06 0.000 m 0.000 m	CL.VAP_M2_ROOF	Coincident: Vertex-Vertex	on	1.0000 0.001 m
071129_070214_connect [0711120_070214] (-0.006 ,	-0.001, -0.001) m	ScanworId 1 (Leveled) 0.006 m -0.001 m	ScanworId 2 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.006 m
071129_070214_connect [0711120_070214] (0.003 ,	0.002, 0.000) m	ScanworId 1 (Leveled) 0.004 m 0.000 m	ScanworId 2 (Leveled)	Coincident: Vertex-Vertex	on	1.0000 0.004 m

071129_070214_connect (0.000 , -0.001 , 0.002)	[071120_070214 [TargetID: pto 1]]	Scanworl d 1 (Leveled) m 0.001 m 0.002 m	Scanworl d 2 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.002 m
071129_070214_connect (-0.008 , 0.002 , -0.002)	[071120_070214 [TargetID: pto 2]]	Scanworl d 1 (Leveled) m 0.011 m -0.002 m	Scanworl d 3 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.011 m
071129_070214_connect (0.003 , 0.002 , 0.000)	[071120_070214 [TargetID: pto 3]]	Scanworl d 1 (Leveled) m 0.003 m 0.000 m	Scanworl d 3 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.003 m
071129_070214_connect (0.005 , 0.003 , 0.003)	[071120_070214 [TargetID: pto 1]]	Scanworl d 1 (Leveled) m 0.006 m 0.003 m	Scanworl d 3 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.006 m
071129_070214_connect (0.005 , 0.004 , 0.001)	[071120_070214 [TargetID: pto 1]]	Scanworl d 2 (Leveled) m 0.006 m 0.001 m	Scanworl d 3 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.006 m
071129_070214_connect (-0.002 , -0.006 , -0.001)	[071120_070214 [TargetID: pto 2]]	Scanworl d 2 (Leveled) m 0.006 m -0.001 m	Scanworl d 3 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.006 m
071129_070214_connect (0.000 , 0.000 , 0.000)	[071120_070214 [TargetID: pto 3]]	Scanworl d 2 (Leveled) m 0.000 m 0.000 m	Scanworl d 3 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.000 m
071129_070214_connect aligned [0.006 m]	[071120_070214 [Cloud/Mesh 1]]	Scanworl d 1 (Leveled)	Scanworl d 2 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.005 m
071129_070214_connect aligned [0.007 m]	[071120_070214 [Cloud/Mesh 2]]	Scanworl d 2 (Leveled)	Scanworl d 3 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.004 m
071129_070214_connect aligned [0.006 m]	[Cloud/Mesh 1]	Scanworl d 3 (Leveled)	I0.01.05	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 1 aligned [0.007 m]		I0.01.01 (Leveled)	Scanworl d 3 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 2 aligned [0.007 m]		I0.01.01 (Leveled)	I1.01.04	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 3 aligned [0.012 m]		I0.01.01 (Leveled)	I1.01.03 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m
Cloud/Mesh 4 aligned [0.008 m]		I0.01.01 (Leveled)	I0.01.07	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 5 aligned [0.006 m]		I0.01.01 (Leveled)	I0.01.06_princ	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 6 aligned [0.009 m]		I0.01.01 (Leveled)	I1.01.01	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 7 aligned [0.011 m]		I0.01.01 (Leveled)	I0.01.04 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m
Cloud/Mesh 8 aligned [0.007 m]		I0.01.01 (Leveled)	I1.01.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 9 aligned [0.006 m]		I0.01.01 (Leveled)	I0.01.02 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 10 aligned [0.006 m]		I0.01.01 (Leveled)	I0.05.03_princ	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 11 aligned [0.006 m]		I1.01.05	I1.01.04	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m
Cloud/Mesh 12 aligned [0.008 m]		I1.01.05	I1.01.03 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 13 aligned [0.007 m]		I1.01.05	I1.01.01	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 14 aligned [0.007 m]		I1.01.05	I1.01.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 15 aligned [0.006 m]		I1.01.04	Scanworl d 3 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 16 aligned [0.009 m]		I1.01.04	I1.01.03 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m
Cloud/Mesh 17 aligned [0.007 m]		I1.01.04	I1.01.01	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 18 aligned [0.007 m]		I1.01.04	I1.01.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 19 aligned [0.007 m]		I1.01.03 (Leveled)	Scanworl d 3 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 20 aligned [0.007 m]		I1.01.03 (Leveled)	I1.01.01	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 21 aligned [0.008 m]		I1.01.03 (Leveled)	I1.01.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 22 aligned [0.005 m]		I0.04.01	I0.05.01	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 23 aligned [0.006 m]		I0.01.07	Scanworl d 3 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m
Cloud/Mesh 24 aligned [0.008 m]		I0.01.07	I1.01.04	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 25 aligned [0.006 m]		I0.01.07	I0.01.03 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 26 aligned [0.006 m]		I0.01.07	I1.01.01	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 27 aligned [0.007 m]		I0.01.07	I0.01.04 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 28 aligned [0.005 m]		I0.01.07	I1.01.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 29 aligned [0.006 m]		I0.01.07	I0.01.05	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 30 aligned [0.006 m]		I0.01.06_princ	Scanworl d 3 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 31 aligned [0.006 m]		I0.01.06_princ	I1.01.04	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m
Cloud/Mesh 32 aligned [0.008 m]		I0.01.06_princ	I1.01.03 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m
Cloud/Mesh 33 aligned [0.007 m]		I0.01.06_princ	I0.01.07	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 34 aligned [0.009 m]		I0.01.06_princ	I1.01.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m
Cloud/Mesh 35 aligned [0.008 m]		I0.01.06_princ	I0.01.05	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m
Cloud/Mesh 36 aligned [0.006 m]		I0.01.06_princ	I0.05.03_princ	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 37 aligned [0.006 m]		I0.01.03 (Leveled)	Scanworl d 3 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m
Cloud/Mesh 38 aligned [0.007 m]		I0.01.03 (Leveled)	I1.01.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.000 m
Cloud/Mesh 39 aligned [0.007 m]		I1.01.01	I1.01.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 40 aligned [0.014 m]		I0.01.04 (Leveled)	Scanworl d 2 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	OFF	1.0000	0.009 m
Cloud/Mesh 41 aligned [0.007 m]		I0.01.04 (Leveled)	Scanworl d 3 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 42 aligned [0.007 m]		I0.01.02 (Leveled)	Scanworl d 3 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 43 aligned [0.007 m]		I0.01.02 (Leveled)	I1.01.04	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m
Cloud/Mesh 44 aligned [0.008 m]		I0.01.02 (Leveled)	I0.01.07	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 45 aligned [0.006 m]		I0.01.02 (Leveled)	I0.01.06_princ	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 46 aligned [0.009 m]		I0.01.02 (Leveled)	I0.01.03 (Leveled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m
Cloud/Mesh 47 aligned [0.006 m]		I0.01.02 (Leveled)	I1.01.01	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m
Cloud/Mesh 48 aligned [0.008 m]		I0.01.02 (Leveled)	I1.01.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.003 m

Cloud/Mesh	aligned	IO.01.02 (Levelled)	080224_MATRIZ_REG-REPORT.txt IO.05.03_princ	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.001 m
Cloud/Mesh 49	aligned [0.006 m]	IO.01.02 (Levelled)	IO.05.03_princ	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.001 m
Cloud/Mesh 50	aligned [0.008 m]	IO.01.05	ScanworId 2 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.004 m
Cloud/Mesh 51	aligned [0.008 m]	IO.01.05	I1.01.04	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.001 m
Cloud/Mesh 52	aligned [0.006 m]	IO.01.05	IO.01.03 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.001 m
Cloud/Mesh 53	aligned/underconstrained [0.005 m]	E0.05.04	ScanworId 1 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.003 m
Cloud/Mesh 54	aligned [0.006 m]	E0.05.04	E0.05.05	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.002 m
Cloud/Mesh 55	aligned [0.006 m]	IO.05.03_princ	ScanworId 3 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.001 m
Cloud/Mesh 56	aligned [0.006 m]	IO.05.03_princ	I1.01.04	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.001 m
Cloud/Mesh 57	aligned [0.009 m]	IO.05.03_princ	I1.01.03 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.001 m
Cloud/Mesh 58	aligned [0.006 m]	IO.05.03_princ	IO.01.07	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.000 m
Cloud/Mesh 59	aligned [0.007 m]	IO.05.03_princ	IO.01.03 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.001 m
Cloud/Mesh 60	aligned [0.007 m]	IO.05.03_princ	I1.01.01	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.001 m
Cloud/Mesh 61	aligned [0.006 m]	IO.05.03_princ	IO.01.04 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.001 m
Cloud/Mesh 62	aligned [0.008 m]	IO.05.03_princ	I1.01.02	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.001 m
Cloud/Mesh 63	aligned [0.006 m]	IO.05.03_princ	IO.01.05	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.001 m
Cloud/Mesh 64	aligned [0.007 m]	E0.05.06	ScanworId 2 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.004 m
Cloud/Mesh 65	aligned [0.010 m]	E0.05.06	CL.VAP_MZ_ROOF	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.013 m
Cloud/Mesh 66	aligned [0.006 m]	E0.05.05	ScanworId 1 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh on	1.0000 0.001 m

071129_070214_connect [0711120_070214 [Cloud/Mesh 1]] [ScanworId 1 (Levelled) : ScanworId 2 (Levelled)]

Objective Function Value: 1.87631e-005 sq m
Iterations: 100
Overlap Point Count: 967431
Overlap Error Statistics
RMS: 0.00603546 m
AVG: 0.0039995 m
MIN: 6.43527e-009 m
MAX: 0.0494163 m
Overlap Center: (21.921, -9.456, 9.427) m
Error after global registration: 1.40553e-005 sq m
Translation: (23.784, 11.782, -0.013) m
Rotation: (-0.0001, 0.0001, 1.0000):79.9 deg

071129_070214_connect [0711120_070214 [Cloud/Mesh 2]] [ScanworId 2 (Levelled) : ScanworId 3 (Levelled)]

Objective Function Value: 1.7112e-005 sq m
Iterations: 100
Overlap Point Count: 140271
Overlap Error Statistics
RMS: 0.00693991 m
AVG: 0.00415109 m
MIN: 1.99057e-008 m
MAX: 0.049784 m
Overlap Center: (-20.056, 2.046, 2.221) m
Error after global registration: 1.10394e-005 sq m
Translation: (-22.882, -3.913, 2.414) m
Rotation: (0.0001, 0.0000, -1.0000):-137.5 deg

071129_070214_connect [Cloud/Mesh 1] [ScanworId 3 (Levelled) : IO.01.05]

Objective Function Value: 1.16019e-005 sq m
Iterations: 100
Overlap Point Count: 736207
Overlap Error Statistics
RMS: 0.0058078 m
AVG: 0.00333686 m
MIN: 8.54877e-009 m
MAX: 0.0498584 m
Overlap Center: (2.061, 7.652, 1.436) m
Error after global registration: 7.92531e-007 sq m
Translation: (0.440, -0.175, -1.423) m
Rotation: (-0.1076, 0.0713, 0.9916):-9.4 deg

Cloud/Mesh 1 [IO.01.01 (Levelled) : ScanworId 3 (Levelled)]

Objective Function Value: 1.31317e-005 sq m
Iterations: 100
Overlap Point Count: 173355
Overlap Error Statistics
RMS: 0.00700542 m
AVG: 0.00388223 m
MIN: 3.22684e-008 m
MAX: 0.0488503 m
Overlap Center: (6.163, -0.597, 6.126) m
Error after global registration: 3.07333e-007 sq m
Translation: (17.668, 27.214, -0.556) m
Rotation: (0.0000, 0.0000, 1.0000):171.8 deg

Cloud/Mesh 2 [IO.01.01 (Levelled) : I1.01.04]

Objective Function Value: 1.67841e-005 sq m
Iterations: 100
Overlap Point Count: 136627
Overlap Error Statistics
RMS: 0.00710634 m
AVG: 0.00408877 m
MIN: 1.73083e-009 m

MAX: 0.0494198 m
Overlap Center: (7.004, 1.786, 3.765) m
Error after global registration: 8.80955e-007 sq m
Translation: (14.793, 21.315, 5.823) m
Rotation: (-0.0018, -0.0035, 1.0000):30.7 deg
Cloud/Mesh 3 [I0.01.01 (Leveled) : I1.01.03 (Leveled)]
Objective Function Value: 4.47506e-005 sq m
Iterations: 100
Overlap Point Count: 41009
Overlap Error Statistics
RMS: 0.011569 m
AVG: 0.00741027 m
MIN: 8.09892e-008 m
MAX: 0.0492449 m
Overlap Center: (9.044, 7.956, 3.532) m
Error after global registration: 1.91599e-006 sq m
Translation: (16.852, 26.012, 5.919) m
Rotation: (-0.0004, 0.0004, -1.0000):7.8 deg
Cloud/Mesh 4 [I0.01.01 (Leveled) : I0.01.07]
Objective Function Value: 1.48512e-005 sq m
Iterations: 100
Overlap Point Count: 34508
Overlap Error Statistics
RMS: 0.00753153 m
AVG: 0.00399186 m
MIN: 1.18834e-007 m
MAX: 0.0494588 m
Overlap Center: (10.520, 12.288, 4.396) m
Error after global registration: 2.31404e-007 sq m
Translation: (15.733, 22.170, -0.573) m
Rotation: (0.1036, -0.0928, -0.9903):-1.1 deg
Cloud/Mesh 5 [I0.01.01 (Leveled) : I0.01.06_princ]
Objective Function Value: 1.11205e-005 sq m
Iterations: 100
Overlap Point Count: 421522
Overlap Error Statistics
RMS: 0.00576656 m
AVG: 0.00328455 m
MIN: 3.76699e-008 m
MAX: 0.0497739 m
Overlap Center: (5.862, -1.955, 5.041) m
Error after global registration: 1.53502e-007 sq m
Translation: (3.559, -9.291, 0.435) m
Rotation: (0.0007, -0.0003, 1.0000):120.9 deg
Cloud/Mesh 6 [I0.01.01 (Leveled) : I1.01.01]
Objective Function Value: 1.88856e-005 sq m
Iterations: 100
Overlap Point Count: 166308
Overlap Error Statistics
RMS: 0.0087791 m
AVG: 0.00474345 m
MIN: 5.4613e-008 m
MAX: 0.0497874 m
Overlap Center: (5.155, 11.676, 3.461) m
Error after global registration: 4.93248e-007 sq m
Translation: (10.229, 27.946, 5.548) m
Rotation: (0.0001, -0.0004, 1.0000):132.8 deg
Cloud/Mesh 7 [I0.01.01 (Leveled) : I0.01.04 (Leveled)]
Objective Function Value: 4.61945e-005 sq m
Iterations: 100
Overlap Point Count: 68225
Overlap Error Statistics
RMS: 0.0112539 m
AVG: 0.00710764 m
MIN: 7.18839e-008 m
MAX: 0.0490101 m
Overlap Center: (9.116, 22.868, 1.769) m
Error after global registration: 2.66097e-006 sq m
Translation: (10.370, 28.191, -0.635) m
Rotation: (0.0020, -0.0066, 1.0000):-1.7 deg
Cloud/Mesh 8 [I0.01.01 (Leveled) : I1.01.02]
Objective Function Value: 9.08518e-006 sq m
Iterations: 100
Overlap Point Count: 122713
Overlap Error Statistics
RMS: 0.00702591 m
AVG: 0.00347141 m
MIN: 4.01976e-009 m
MAX: 0.0498491 m
Overlap Center: (8.170, 6.992, 2.408) m
Error after global registration: 3.12914e-007 sq m
Translation: (22.962, 23.052, 5.545) m
Rotation: (-0.0001, 0.0002, -1.0000):177.5 deg
Cloud/Mesh 9 [I0.01.01 (Leveled) : I0.01.02 (Leveled)]
Objective Function Value: 1.30736e-005 sq m
Iterations: 100
Overlap Point Count: 211570

Overlap Error Statistics
RMS: 0.00594509 m
AVG: 0.00353229 m
MIN: 3.29512e-008 m
MAX: 0.049341 m
Overlap Center: (5.878, -1.410, 2.987) m
Error after global registration: 3.03845e-007 sq m
Translation: (12.258, -4.281, -0.056) m
Rotation: (0.0002, 0.0002, 1.0000):20.9 deg
Cloud/Mesh 10 [I0.01.01 (Leveled) : I0.05.03 princ]
Objective Function Value: 1.25897e-005 sq m
Iterations: 100
Overlap Point Count: 332025
Overlap Error Statistics
RMS: 0.00612033 m
AVG: 0.00348984 m
MIN: 2.85745e-008 m
MAX: 0.0497046 m
Overlap Center: (6.666, 4.678, 4.397) m
Error after global registration: 5.67925e-007 sq m
Translation: (11.100, 11.053, 0.011) m
Rotation: (0.0018, 0.0009, -1.0000):25.2 deg
Cloud/Mesh 11 [I1.01.05 : I1.01.04]
Objective Function Value: 8.66389e-006 sq m
Iterations: 100
Overlap Point Count: 92411
Overlap Error Statistics
RMS: 0.00643847 m
AVG: 0.00326318 m
MIN: 1.32685e-008 m
MAX: 0.0491684 m
Overlap Center: (-0.374, -2.207, 2.363) m
Error after global registration: 1.75902e-006 sq m
Translation: (-0.805, -3.995, 1.387) m
Rotation: (0.0048, 0.0016, 1.0000):43.8 deg
Cloud/Mesh 12 [I1.01.05 : I1.01.03 (Leveled)]
Objective Function Value: 2.09325e-005 sq m
Iterations: 100
Overlap Point Count: 179426
Overlap Error Statistics
RMS: 0.00819845 m
AVG: 0.00469141 m
MIN: 8.49885e-010 m
MAX: 0.049776 m
Overlap Center: (-0.170, 0.527, 2.149) m
Error after global registration: 3.63329e-007 sq m
Translation: (0.134, 1.047, 1.492) m
Rotation: (0.0299, 0.0470, 0.9984):5.3 deg
Cloud/Mesh 13 [I1.01.05 : I1.01.01]
Objective Function Value: 1.15892e-005 sq m
Iterations: 100
Overlap Point Count: 67224
Overlap Error Statistics
RMS: 0.00710493 m
AVG: 0.00364501 m
MIN: 6.43012e-008 m
MAX: 0.0489849 m
Overlap Center: (-2.700, 1.474, 1.039) m
Error after global registration: 2.03581e-007 sq m
Translation: (-6.756, 1.427, 1.152) m
Rotation: (0.0027, -0.0012, 1.0000):145.9 deg
Cloud/Mesh 14 [I1.01.05 : I1.01.02]
Objective Function Value: 1.00472e-005 sq m
Iterations: 100
Overlap Point Count: 59246
Overlap Error Statistics
RMS: 0.00745667 m
AVG: 0.00367223 m
MIN: 5.45356e-008 m
MAX: 0.0493119 m
Overlap Center: (2.703, 0.989, 0.942) m
Error after global registration: 2.39775e-007 sq m
Translation: (6.756, -0.449, 1.086) m
Rotation: (-0.0022, 0.0019, -1.0000):164.4 deg
Cloud/Mesh 15 [I1.01.04 : scanworld 3 (Leveled)]
Objective Function Value: 1.49061e-005 sq m
Iterations: 100
Overlap Point Count: 627032
Overlap Error Statistics
RMS: 0.00600864 m
AVG: 0.00363781 m
MIN: 1.11535e-008 m
MAX: 0.0499061 m
Overlap Center: (-23.320, -18.475, -0.952) m
Error after global registration: 3.53066e-007 sq m
Translation: (5.472, 3.617, -6.381) m
Rotation: (0.0010, -0.0004, 1.0000):141.1 deg

Cloud/Mesh 16 [I1.01.04 : I1.01.03 (Leveled)]
 Objective Function Value: 3.1239e-005 sq m
 Iterations: 100
 Overlap Point Count: 252407
 Overlap Error Statistics
 RMS: 0.0089242 m
 AVG: 0.00542048 m
 MIN: 1.86328e-008 m
 MAX: 0.0498239 m
 Overlap Center: (-8.662, -7.152, -0.688) m
 Error after global registration: 1.99633e-006 sq m
 Translation: (4.167, 2.991, 0.093) m
 Rotation: (0.0012, 0.0031, -1.0000):38.5 deg

Cloud/Mesh 17 [I1.01.04 : I1.01.01]
 Objective Function Value: 1.65847e-005 sq m
 Iterations: 100
 Overlap Point Count: 117090
 Overlap Error Statistics
 RMS: 0.00686801 m
 AVG: 0.00406236 m
 MIN: 4.42786e-008 m
 MAX: 0.0487973 m
 Overlap Center: (-13.249, -6.811, -2.949) m
 Error after global registration: 5.92677e-007 sq m
 Translation: (-0.541, 8.032, -0.265) m
 Rotation: (0.0013, -0.0005, 1.0000):102.1 deg

Cloud/Mesh 18 [I1.01.04 : I1.01.02]
 Objective Function Value: 1.75225e-005 sq m
 Iterations: 100
 Overlap Point Count: 130364
 Overlap Error Statistics
 RMS: 0.00689648 m
 AVG: 0.00408756 m
 MIN: 2.16012e-008 m
 MAX: 0.0493973 m
 Overlap Center: (-8.944, -11.142, -2.821) m
 Error after global registration: 4.95506e-007 sq m
 Translation: (7.912, -2.673, -0.293) m
 Rotation: (-0.0010, 0.0008, -1.0000):-151.8 deg

Cloud/Mesh 19 [I1.01.03 (Leveled) : ScanWorld 3 (Leveled)]
 Objective Function Value: 2.25781e-005 sq m
 Iterations: 100
 Overlap Point Count: 288482
 Overlap Error Statistics
 RMS: 0.00709196 m
 AVG: 0.00458824 m
 MIN: 1.84598e-008 m
 MAX: 0.0490973 m
 Overlap Center: (-9.010, -39.071, -2.759) m
 Error after global registration: 3.33356e-007 sq m
 Translation: (0.643, 1.302, -6.472) m
 Rotation: (0.0000, -0.0001, 1.0000):179.6 deg

Cloud/Mesh 20 [I1.01.03 (Leveled) : I1.01.01]
 Objective Function Value: 1.64026e-005 sq m
 Iterations: 100
 Overlap Point Count: 101320
 Overlap Error Statistics
 RMS: 0.00736021 m
 AVG: 0.00425227 m
 MIN: 5.49971e-008 m
 MAX: 0.0485623 m
 Overlap Center: (-4.254, -4.576, -1.183) m
 Error after global registration: 3.64247e-007 sq m
 Translation: (-6.823, 1.012, -0.372) m
 Rotation: (0.0001, -0.0004, 1.0000):140.6 deg

Cloud/Mesh 21 [I1.01.03 (Leveled) : I1.01.02]
 Objective Function Value: 1.88594e-005 sq m
 Iterations: 100
 Overlap Point Count: 64261
 Overlap Error Statistics
 RMS: 0.00817109 m
 AVG: 0.0047474 m
 MIN: 3.07986e-008 m
 MAX: 0.0492947 m
 Overlap Center: (-0.409, -8.072, -1.463) m
 Error after global registration: 6.14013e-007 sq m
 Translation: (6.458, -2.101, -0.373) m
 Rotation: (-0.0002, 0.0003, -1.0000):169.7 deg

Cloud/Mesh 22 [I0.04.01 : I0.05.01]
 Objective Function Value: 8.45206e-006 sq m
 Iterations: 100
 Overlap Point Count: 127716
 Overlap Error Statistics
 RMS: 0.00504363 m
 AVG: 0.00285556 m
 MIN: 4.16178e-009 m
 MAX: 0.0493505 m

Overlap Center: (-0.145, -0.880, 0.776) m
Error after global registration: 7.71092e-007 sq m
Translation: (1.889, -0.586, 1.072) m
Rotation: (-0.0009, 0.0037, -1.0000):-152.4 deg
Cloud/Mesh 23 [I0.01.07 : ScanWorld 3 (Leveled)]
Objective Function Value: 1.1222e-005 sq m
Iterations: 100
Overlap Point Count: 515292
Overlap Error Statistics
RMS: 0.00600794 m
AVG: 0.00330279 m
MIN: 3.55285e-009 m
MAX: 0.0498579 m
Overlap Center: (-1.828, -3.336, 1.930) m
Error after global registration: 1.1997e-006 sq m
Translation: (2.030, 5.006, 0.029) m
Rotation: (0.0008, 0.0010, -1.0000):-170.7 deg
Cloud/Mesh 24 [I0.01.07 : I1.01.04]
Objective Function Value: 1.96903e-005 sq m
Iterations: 100
Overlap Point Count: 61307
Overlap Error Statistics
RMS: 0.00794395 m
AVG: 0.00475914 m
MIN: 3.24726e-008 m
MAX: 0.0493447 m
Overlap Center: (-6.774, -15.452, 5.183) m
Error after global registration: 4.02353e-007 sq m
Translation: (-0.968, -0.851, 6.392) m
Rotation: (-0.0009, 0.0079, -1.0000):-29.6 deg
Cloud/Mesh 25 [I0.01.07 : I0.01.03 (Leveled)]
Objective Function Value: 1.17086e-005 sq m
Iterations: 100
Overlap Point Count: 61168
Overlap Error Statistics
RMS: 0.00589655 m
AVG: 0.00333197 m
MIN: 2.40232e-008 m
MAX: 0.0486905 m
Overlap Center: (2.703, -1.246, 1.166) m
Error after global registration: 2.07111e-007 sq m
Translation: (6.778, 1.716, -0.022) m
Rotation: (0.0020, 0.0000, -1.0000):81.0 deg
Cloud/Mesh 26 [I0.01.07 : I1.01.01]
Objective Function Value: 8.34768e-006 sq m
Iterations: 100
Overlap Point Count: 105102
Overlap Error Statistics
RMS: 0.00566049 m
AVG: 0.0030294 m
MIN: 6.69412e-008 m
MAX: 0.0484093 m
Overlap Center: (-8.651, -2.267, 4.742) m
Error after global registration: 1.77654e-007 sq m
Translation: (-5.404, 5.868, 6.123) m
Rotation: (0.0002, 0.0017, -1.0000):-131.7 deg
Cloud/Mesh 27 [I0.01.07 : I0.01.04 (Leveled)]
Objective Function Value: 1.75345e-005 sq m
Iterations: 100
Overlap Point Count: 82230
Overlap Error Statistics
RMS: 0.00697697 m
AVG: 0.00421986 m
MIN: 7.50547e-008 m
MAX: 0.0487147 m
Overlap Center: (5.797, 27.742, -0.077) m
Error after global registration: 5.58873e-007 sq m
Translation: (-5.247, 6.123, -0.060) m
Rotation: (0.0406, -0.0350, -0.9986):2.8 deg
Cloud/Mesh 28 [I0.01.07 : I1.01.02]
Objective Function Value: 8.1395e-006 sq m
Iterations: 100
Overlap Point Count: 132646
Overlap Error Statistics
RMS: 0.00548494 m
AVG: 0.00294921 m
MIN: 8.65483e-009 m
MAX: 0.0488503 m
Overlap Center: (3.487, -7.300, 4.895) m
Error after global registration: 4.74737e-007 sq m
Translation: (7.233, 0.731, 6.132) m
Rotation: (-0.0008, -0.0012, 1.0000):-178.6 deg
Cloud/Mesh 29 [I0.01.07 : I0.01.05]
Objective Function Value: 1.11778e-005 sq m
Iterations: 100
Overlap Point Count: 285039
Overlap Error Statistics

RMS: 0.00618162 m
AVG: 0.00336135 m
MIN: 2.21382e-008 m
MAX: 0.0498295 m
Overlap Center: (2.066, 7.558, 0.311) m
Error after global registration: 3.59729e-007 sq m
Translation: (1.627, 5.252, -1.394) m
Rotation: (0.0060, 0.0073, 1.0000):161.4 deg
Cloud/Mesh 30 [I0.01.06_princ : ScanworId 3 (Leveled)]
Objective Function Value: 1.1038e-005 sq m
Iterations: 100
Overlap Point Count: 841588
Overlap Error Statistics
RMS: 0.00573104 m
AVG: 0.00323272 m
MIN: 8.90181e-009 m
MAX: 0.0498925 m
Overlap Center: (2.025, -2.293, 5.706) m
Error after global registration: 5.50205e-007 sq m
Translation: (24.071, -30.856, -1.021) m
Rotation: (0.0006, 0.0015, 1.0000):50.9 deg
Cloud/Mesh 31 [I0.01.06_princ : I1.01.04]
Objective Function Value: 1.09668e-005 sq m
Iterations: 100
Overlap Point Count: 478950
Overlap Error Statistics
RMS: 0.00596552 m
AVG: 0.00324603 m
MIN: 1.29948e-008 m
MAX: 0.0497617 m
Overlap Center: (3.460, -4.651, 5.018) m
Error after global registration: 1.32294e-006 sq m
Translation: (20.495, -25.360, 5.361) m
Rotation: (-0.0022, 0.0006, -1.0000):90.2 deg
Cloud/Mesh 32 [I0.01.06_princ : I1.01.03 (Leveled)]
Objective Function Value: 1.76002e-005 sq m
Iterations: 100
Overlap Point Count: 165958
Overlap Error Statistics
RMS: 0.0080691 m
AVG: 0.00450487 m
MIN: 7.41248e-009 m
MAX: 0.0495236 m
Overlap Center: (1.017, -1.123, 2.882) m
Error after global registration: 2.51127e-006 sq m
Translation: (23.468, -29.540, 5.453) m
Rotation: (-0.0007, 0.0003, -1.0000):128.7 deg
Cloud/Mesh 33 [I0.01.06_princ : I0.01.07]
Objective Function Value: 1.39472e-005 sq m
Iterations: 100
Overlap Point Count: 107126
Overlap Error Statistics
RMS: 0.00736289 m
AVG: 0.00402549 m
MIN: 2.25468e-008 m
MAX: 0.0497038 m
Overlap Center: (13.045, -16.281, 3.576) m
Error after global registration: 8.3061e-007 sq m
Translation: (20.738, -26.606, -1.035) m
Rotation: (0.0004, -0.0019, 1.0000):-119.8 deg
Cloud/Mesh 34 [I0.01.06_princ : I1.01.02]
Objective Function Value: 1.05907e-005 sq m
Iterations: 100
Overlap Point Count: 95103
Overlap Error Statistics
RMS: 0.00852133 m
AVG: 0.00414572 m
MIN: 8.58675e-009 m
MAX: 0.0494318 m
Overlap Center: (6.583, -7.564, 1.729) m
Error after global registration: 2.59955e-006 sq m
Translation: (17.787, -33.261, 5.086) m
Rotation: (-0.0004, -0.0007, -1.0000):-61.6 deg
Cloud/Mesh 35 [I0.01.06_princ : I0.01.05]
Objective Function Value: 2.6703e-005 sq m
Iterations: 100
Overlap Point Count: 85909
Overlap Error Statistics
RMS: 0.00773171 m
AVG: 0.00490244 m
MIN: 2.19997e-008 m
MAX: 0.0493371 m
Overlap Center: (5.953, -7.651, 2.302) m
Error after global registration: 2.11948e-006 sq m
Translation: (24.486, -30.624, -2.445) m
Rotation: (-0.0303, 0.0032, -0.9995):-41.6 deg
Cloud/Mesh 36 [I0.01.06_princ : I0.05.03_princ]

Objective Function Value: 8.56339e-006 sq m
Iterations: 100
Overlap Point Count: 857503
Overlap Error Statistics
RMS: 0.00550178 m
AVG: 0.00300166 m
MIN: 5.84516e-009 m
MAX: 0.0496529 m
Overlap Center: (5.441, -7.062, 5.175) m
Error after global registration: 7.43189e-007 sq m
Translation: (13.580, -16.921, -0.441) m
Rotation: (-0.0003, -0.0001, -1.0000):146.1 deg
Cloud/Mesh 37 [I0.01.03 (Leveled) : ScanWorld 3 (Leveled)]
Objective Function Value: 1.2652e-005 sq m
Iterations: 100
Overlap Point Count: 166515
Overlap Error Statistics
RMS: 0.00616086 m
AVG: 0.00351381 m
MIN: 1.66715e-008 m
MAX: 0.0489782 m
Overlap Center: (0.796, -5.408, 0.282) m
Error after global registration: 1.94474e-006 sq m
Translation: (-3.995, -4.171, 0.052) m
Rotation: (0.0002, 0.0000, -1.0000):108.3 deg
Cloud/Mesh 38 [I0.01.03 (Leveled) : I1.01.02]
Objective Function Value: 1.41921e-005 sq m
Iterations: 100
Overlap Point Count: 84683
Overlap Error Statistics
RMS: 0.00687795 m
AVG: 0.00393446 m
MIN: 3.33876e-008 m
MAX: 0.0486234 m
Overlap Center: (8.770, -4.907, 4.860) m
Error after global registration: 1.03522e-007 sq m
Translation: (1.033, 0.309, 6.156) m
Rotation: (0.0004, -0.0002, 1.0000):-97.6 deg
Cloud/Mesh 39 [I1.01.01 : I1.01.02]
Objective Function Value: 1.15381e-005 sq m
Iterations: 100
Overlap Point Count: 114571
Overlap Error Statistics
RMS: 0.0069539 m
AVG: 0.00369818 m
MIN: 2.65741e-008 m
MAX: 0.049297 m
Overlap Center: (-11.258, 7.153, -2.692) m
Error after global registration: 3.43566e-007 sq m
Translation: (-12.242, -6.019, 0.000) m
Rotation: (-0.0004, 0.0004, -1.0000):-49.7 deg
Cloud/Mesh 40 [I0.01.04 (Leveled) : ScanWorld 2 (Leveled)]
Objective Function Value: 0.000104996 sq m
Iterations: 12
Overlap Point Count: 125112
Overlap Error Statistics
RMS: 0.0135075 m
AVG: 0.0101671 m
MIN: 1.80046e-007 m
MAX: 0.0493899 m
Overlap Center: (4.662, 15.852, -0.935) m
Error after global registration: 4.52019e-005 sq m
Translation: (23.542, 15.858, -2.339) m
Rotation: (0.0002, 0.0004, 1.0000):36.0 deg
Cloud/Mesh 41 [I0.01.04 (Leveled) : ScanWorld 3 (Leveled)]
Objective Function Value: 1.73854e-005 sq m
Iterations: 100
Overlap Point Count: 126226
Overlap Error Statistics
RMS: 0.00714506 m
AVG: 0.00425981 m
MIN: 7.72828e-009 m
MAX: 0.0488382 m
Overlap Center: (3.886, -3.657, 0.517) m
Error after global registration: 7.6245e-007 sq m
Translation: (7.322, -0.757, 0.077) m
Rotation: (-0.0001, 0.0000, -1.0000):-173.5 deg
Cloud/Mesh 42 [I0.01.02 (Leveled) : ScanWorld 3 (Leveled)]
Objective Function Value: 1.56548e-005 sq m
Iterations: 100
Overlap Point Count: 176319
Overlap Error Statistics
RMS: 0.00730952 m
AVG: 0.00406474 m
MIN: 1.99275e-008 m
MAX: 0.0497317 m
Overlap Center: (-4.492, 5.774, 6.420) m

Error after global registration: 4.89467e-007 sq m
Translation: (16.282, 27.497, -0.501) m
Rotation: (0.0000, 0.0000, 1.0000):150.9 deg
Cloud/Mesh 43 [I0.01.02 (Leveled) : I1.01.04]
Objective Function Value: 1.47673e-005 sq m
Iterations: 100
Overlap Point Count: 126264
Overlap Error Statistics
RMS: 0.00669052 m
AVG: 0.00377123 m
MIN: 9.12875e-009 m
MAX: 0.0488994 m
Overlap Center: (-3.223, 3.563, 3.787) m
Error after global registration: 1.96904e-006 sq m
Translation: (11.493, 23.009, 5.877) m
Rotation: (-0.0078, -0.0093, 0.9999):9.8 deg
Cloud/Mesh 44 [I0.01.02 (Leveled) : I0.01.07]
Objective Function Value: 1.29817e-005 sq m
Iterations: 100
Overlap Point Count: 24785
Overlap Error Statistics
RMS: 0.00776664 m
AVG: 0.00423093 m
MIN: 7.15285e-008 m
MAX: 0.0495114 m
Overlap Center: (2.327, 10.731, 4.205) m
Error after global registration: 7.45366e-007 sq m
Translation: (12.677, 23.473, -0.519) m
Rotation: (0.0050, -0.0060, 1.0000):-19.8 deg
Cloud/Mesh 45 [I0.01.02 (Leveled) : I0.01.06_princ]
Objective Function Value: 1.02689e-005 sq m
Iterations: 100
Overlap Point Count: 449481
Overlap Error Statistics
RMS: 0.0055371 m
AVG: 0.00310871 m
MIN: 7.28237e-010 m
MAX: 0.0499088 m
Overlap Center: (-5.122, 2.924, 5.273) m
Error after global registration: 9.01831e-007 sq m
Translation: (-9.913, -1.579, 0.491) m
Rotation: (0.0007, -0.0005, 1.0000):100.0 deg
Cloud/Mesh 46 [I0.01.02 (Leveled) : I0.01.03 (Leveled)]
Objective Function Value: 2.59255e-005 sq m
Iterations: 100
Overlap Point Count: 21521
Overlap Error Statistics
RMS: 0.00922472 m
AVG: 0.00557353 m
MIN: 3.10366e-008 m
MAX: 0.0487305 m
Overlap Center: (9.989, 13.189, 2.620) m
Error after global registration: 1.50778e-006 sq m
Translation: (19.634, 22.793, -0.556) m
Rotation: (0.0001, 0.0000, 1.0000):-100.8 deg
Cloud/Mesh 47 [I0.01.02 (Leveled) : I1.01.01]
Objective Function Value: 9.92671e-006 sq m
Iterations: 100
Overlap Point Count: 88519
Overlap Error Statistics
RMS: 0.00598556 m
AVG: 0.00325376 m
MIN: 5.28847e-008 m
MAX: 0.0492889 m
Overlap Center: (0.393, 2.450, 1.131) m
Error after global registration: 8.71403e-007 sq m
Translation: (9.594, 30.833, 5.600) m
Rotation: (0.0000, -0.0004, 1.0000):111.9 deg
Cloud/Mesh 48 [I0.01.02 (Leveled) : I1.01.02]
Objective Function Value: 1.88902e-005 sq m
Iterations: 100
Overlap Point Count: 97714
Overlap Error Statistics
RMS: 0.00764975 m
AVG: 0.00440503 m
MIN: 3.02356e-008 m
MAX: 0.0495815 m
Overlap Center: (-0.312, 2.016, 1.951) m
Error after global registration: 3.42591e-006 sq m
Translation: (19.746, 21.720, 5.597) m
Rotation: (-0.0002, 0.0002, -1.0000):-161.6 deg
Cloud/Mesh 49 [I0.01.02 (Leveled) : I0.05.03_princ]
Objective Function Value: 9.80973e-006 sq m
Iterations: 100
Overlap Point Count: 321160
Overlap Error Statistics
RMS: 0.0058565 m

AVG: 0.00322991 m
MIN: 1.67636e-009 m
MAX: 0.0493776 m
Overlap Center: (-0.860, 4.243, 4.238) m
Error after global registration: 3.12861e-007 sq m
Translation: (4.385, 14.739, 0.066) m
Rotation: (0.0010, 0.0002, -1.0000):46.1 deg
Cloud/Mesh 50 [I0.01.05 : Scanworld 2 (Leveled)]
Objective Function Value: 2.17653e-005 sq m
Iterations: 100
Overlap Point Count: 113627
Overlap Error Statistics
RMS: 0.0080885 m
AVG: 0.00478413 m
MIN: 2.0852e-008 m
MAX: 0.0491672 m
Overlap Center: (0.977, -16.089, 0.617) m
Error after global registration: 6.93279e-006 sq m
Translation: (-11.557, -20.309, -0.500) m
Rotation: (-0.0096, -0.0067, -0.9999):128.2 deg
Cloud/Mesh 51 [I0.01.05 : I1.01.04]
Objective Function Value: 2.95464e-005 sq m
Iterations: 100
Overlap Point Count: 39940
Overlap Error Statistics
RMS: 0.00847991 m
AVG: 0.00535368 m
MIN: 1.61631e-007 m
MAX: 0.0487872 m
Overlap Center: (1.682, 35.737, 4.240) m
Error after global registration: 7.93281e-007 sq m
Translation: (0.587, 6.734, 7.671) m
Rotation: (0.0104, 0.0065, 0.9999):-131.8 deg
Cloud/Mesh 52 [I0.01.05 : I0.01.03 (Leveled)]
Objective Function Value: 1.00448e-005 sq m
Iterations: 100
Overlap Point Count: 55047
Overlap Error Statistics
RMS: 0.00587433 m
AVG: 0.00323227 m
MIN: 1.15977e-007 m
MAX: 0.047908 m
Overlap Center: (-2.705, -2.563, 0.927) m
Error after global registration: 9.35536e-007 sq m
Translation: (-5.996, 1.733, 1.398) m
Rotation: (0.0006, -0.0123, -0.9999):-117.6 deg
Cloud/Mesh 53 [E0.05.04 : Scanworld 1 (Leveled)]
Objective Function Value: 8.3173e-006 sq m
Iterations: 100
Overlap Point Count: 587100
Overlap Error Statistics
RMS: 0.00505142 m
AVG: 0.00285638 m
MIN: 2.87891e-009 m
MAX: 0.0494974 m
Overlap Center: (0.732, -15.206, 3.313) m
Error after global registration: 5.83599e-006 sq m
Translation: (40.583, -37.148, -3.826) m
Rotation: (-0.0002, 0.0004, -1.0000):152.1 deg
Cloud/Mesh 54 [E0.05.04 : E0.05.05]
Objective Function Value: 1.2589e-005 sq m
Iterations: 100
Overlap Point Count: 985966
Overlap Error Statistics
RMS: 0.00575821 m
AVG: 0.003469 m
MIN: 4.45352e-009 m
MAX: 0.0495778 m
Overlap Center: (3.788, -18.857, 5.634) m
Error after global registration: 1.46476e-006 sq m
Translation: (10.421, -14.085, -1.241) m
Rotation: (-0.0001, -0.0016, 1.0000):77.9 deg
Cloud/Mesh 55 [I0.05.03_princ : Scanworld 3 (Leveled)]
Objective Function Value: 1.20804e-005 sq m
Iterations: 100
Overlap Point Count: 955039
Overlap Error Statistics
RMS: 0.0057968 m
AVG: 0.00335915 m
MIN: 1.39123e-008 m
MAX: 0.0497876 m
Overlap Center: (0.726, -10.487, 4.074) m
Error after global registration: 4.2237e-007 sq m
Translation: (-0.949, 17.417, -0.581) m
Rotation: (-0.0003, 0.0004, 1.0000):-163.0 deg
Cloud/Mesh 56 [I0.05.03_princ : I1.01.04]
Objective Function Value: 1.32565e-005 sq m

Iterations: 100
Overlap Point Count: 496724
Overlap Error Statistics
RMS: 0.00571013 m
AVG: 0.00340418 m
MIN: 1.91395e-008 m
MAX: 0.0498583 m
Overlap Center: (0.661, -5.542, 5.585) m
Error after global registration: 9.64202e-007 sq m
Translation: (-1.038, 10.860, 5.803) m
Rotation: (-0.0015, -0.0023, 1.0000):55.9 deg
Cloud/Mesh 57 [I0.05.03_princ : I1.01.03 (Leveled)]
Objective Function Value: 2.63271e-005 sq m
Iterations: 100
Overlap Point Count: 139594
Overlap Error Statistics
RMS: 0.00919651 m
AVG: 0.00556951 m
MIN: 2.30566e-008 m
MAX: 0.049485 m
Overlap Center: (0.237, -4.462, 5.325) m
Error after global registration: 1.07079e-006 sq m
Translation: (-1.179, 15.988, 5.895) m
Rotation: (-0.0028, -0.0014, 1.0000):17.4 deg
Cloud/Mesh 58 [I0.05.03_princ : I0.01.07]
Objective Function Value: 1.03958e-005 sq m
Iterations: 100
Overlap Point Count: 366122
Overlap Error Statistics
RMS: 0.00555764 m
AVG: 0.00313593 m
MIN: 1.84998e-008 m
MAX: 0.0497756 m
Overlap Center: (-0.397, 7.605, 2.544) m
Error after global registration: 1.52861e-007 sq m
Translation: (-0.549, 12.031, -0.593) m
Rotation: (0.0068, -0.0020, -1.0000):-26.3 deg
Cloud/Mesh 59 [I0.05.03_princ : I0.01.03 (Leveled)]
Objective Function Value: 1.35578e-005 sq m
Iterations: 100
Overlap Point Count: 138933
Overlap Error Statistics
RMS: 0.00730625 m
AVG: 0.00393134 m
MIN: 2.13384e-008 m
MAX: 0.0497293 m
Overlap Center: (5.115, 12.049, 1.851) m
Error after global registration: 4.41329e-007 sq m
Translation: (4.765, 16.574, -0.631) m
Rotation: (0.0005, 0.0009, 1.0000):-54.6 deg
Cloud/Mesh 60 [I0.05.03_princ : I1.01.01]
Objective Function Value: 1.19496e-005 sq m
Iterations: 100
Overlap Point Count: 236869
Overlap Error Statistics
RMS: 0.00727997 m
AVG: 0.00379784 m
MIN: 6.8758e-009 m
MAX: 0.0493664 m
Overlap Center: (-4.339, -0.469, 2.903) m
Error after global registration: 7.71706e-007 sq m
Translation: (-7.995, 14.913, 5.521) m
Rotation: (-0.0002, 0.0000, 1.0000):158.0 deg
Cloud/Mesh 61 [I0.05.03_princ : I0.01.04 (Leveled)]
Objective Function Value: 1.38588e-005 sq m
Iterations: 100
Overlap Point Count: 180618
Overlap Error Statistics
RMS: 0.00628821 m
AVG: 0.00362212 m
MIN: 2.37263e-008 m
MAX: 0.0483643 m
Overlap Center: (-7.071, 11.973, 1.175) m
Error after global registration: 6.54529e-007 sq m
Translation: (-7.967, 15.192, -0.663) m
Rotation: (0.0023, 0.0008, -1.0000):-23.5 deg
Cloud/Mesh 62 [I0.05.03_princ : I1.01.02]
Objective Function Value: 1.22698e-005 sq m
Iterations: 100
Overlap Point Count: 266234
Overlap Error Statistics
RMS: 0.0075214 m
AVG: 0.00387515 m
MIN: 5.0732e-010 m
MAX: 0.0496643 m
Overlap Center: (4.457, 0.432, 2.885) m
Error after global registration: 7.69053e-007 sq m

Translation: (5.612, 15.914, 5.525) m
 Rotation: (0.0000, -0.0002, -1.0000):152.3 deg
 Cloud/Mesh 63 [I0.05.03_princ : I0.01.05]
 Objective Function Value: 1.01457e-005 sq m
 Iterations: 100
 Overlap Point Count: 155827
 Overlap Error Statistics
 RMS: 0.00601122 m
 AVG: 0.00308888 m
 MIN: 1.06217e-008 m
 MAX: 0.0490905 m
 Overlap Center: (-0.559, 7.828, 0.165) m
 Error after global registration: 9.90706e-007 sq m
 Translation: (-1.420, 17.455, -2.005) m
 Rotation: (-0.0043, -0.0100, -0.9999):172.3 deg
 Cloud/Mesh 64 [E0.05.06 : Scanworld 2 (Leveled)]
 Objective Function Value: 1.20617e-005 sq m
 Iterations: 100
 Overlap Point Count: 262138
 Overlap Error Statistics
 RMS: 0.00719706 m
 AVG: 0.0037782 m
 MIN: 8.35607e-010 m
 MAX: 0.0495461 m
 Overlap Center: (-1.905, -15.783, 5.305) m
 Error after global registration: 7.47195e-006 sq m
 Translation: (-19.681, -33.333, -2.132) m
 Rotation: (-0.0001, 0.0002, -1.0000):166.5 deg
 Cloud/Mesh 65 [E0.05.06 : CL.VAP_MZ_ROOTF]
 Objective Function Value: 4.96269e-005 sq m
 Iterations: 100
 Overlap Point Count: 1173786
 Overlap Error Statistics
 RMS: 0.0097286 m
 AVG: 0.00653486 m
 MIN: 9.31578e-009 m
 MAX: 0.0498251 m
 Overlap Center: (6.710, -0.800, 4.713) m
 Error after global registration: 8.72563e-005 sq m
 Translation: (13.702, 13.093, 9.502) m
 Rotation: (0.0367, 0.0149, -0.9992):121.3 deg
 Cloud/Mesh 66 [E0.05.05 : Scanworld 1 (Leveled)]
 Objective Function Value: 1.47133e-005 sq m
 Iterations: 100
 Overlap Point Count: 653564
 Overlap Error Statistics
 RMS: 0.00620007 m
 AVG: 0.00365141 m
 MIN: 5.13917e-010 m
 MAX: 0.0497675 m
 Overlap Center: (-10.274, -3.790, 6.710) m
 Error after global registration: 8.80394e-007 sq m
 Translation: (-16.248, -34.313, -2.609) m
 Rotation: (-0.0009, 0.0009, -1.0000):-130.0 deg

Scanworld Transformations

071129_TopolaMATRIZ_NEZ_def_cm (Leveled)
 translation: (0.000, 0.000, 0.000) m
 rotation: (0.0000, 1.0000, 0.0000):0.0 deg

I0.01.01 (Leveled)

translation: (1957.181, 999.285, 304.119) m
 rotation: (0.0000, 0.0000, -1.0000):59.7 deg

I0.01.02 (Leveled)

translation: (1959.666, 986.541, 304.065) m
 rotation: (0.0000, 0.0000, -1.0000):38.8 deg

I0.01.06_princ

translation: (1950.953, 991.526, 304.554) m
 rotation: (0.0008, -0.0012, 1.0000):61.2 deg

I0.05.03_princ

translation: (1972.324, 995.273, 304.132) m
 rotation: (0.0007, 0.0000, -1.0000):85.0 deg

I0.01.07

translation: (1984.261, 996.879, 303.547) m
 rotation: (-0.0009, 0.0025, -1.0000):58.6 deg

I0.01.05

translation: (1989.588, 998.226, 302.140) m
 rotation: (0.0125, 0.0051, 0.9999):102.8 deg

I0.01.03 (Leveled)

translation: (1989.254, 991.986, 303.510) m
 rotation: (0.0000, 0.0000, 1.0000):-139.6 deg

I0.01.04 (Leveled)
translation: (1986.757, 1004.546, 303.486) m
rotation: (0.0000, 0.0000, -1.0000):61.4 deg

I1.01.05
translation: (1987.102, 997.663, 308.550) m
rotation: (-0.0039, -0.0017, -1.0000):72.8 deg

I1.01.04
translation: (1983.047, 997.260, 309.943) m
rotation: (-0.0036, -0.0024, -1.0000):29.0 deg

I1.01.03 (Leveled)
translation: (1988.143, 997.852, 310.040) m
rotation: (0.0000, 0.0000, -1.0000):67.6 deg

I1.01.01
translation: (1986.473, 1004.545, 309.669) m
rotation: (-0.0002, -0.0007, 1.0000):73.1 deg

I1.01.02
translation: (1988.668, 991.081, 309.666) m
rotation: (0.0000, -0.0004, 1.0000):122.8 deg

I0.04.01
translation: (1948.400, 998.150, 304.227) m
rotation: (-0.0151, -0.0025, 0.9999):26.6 deg

I0.05.02
translation: (1950.281, 984.625, 304.597) m
rotation: (-0.0004, -0.0001, -1.0000):85.5 deg

I0.05.01
translation: (1950.348, 998.480, 305.301) m
rotation: (0.0001, 0.0003, 1.0000):179.1 deg

E0.05.04
translation: (1951.994, 1013.381, 304.935) m
rotation: (-0.0007, -0.0008, 1.0000):46.8 deg

E0.05.06
translation: (1975.676, 977.900, 303.275) m
rotation: (0.0002, -0.0003, 1.0000):141.1 deg

E0.05.05
translation: (1969.396, 1011.323, 303.710) m
rotation: (-0.0001, -0.0012, 1.0000):124.7 deg

CL.VAP_MZ_ROOF
translation: (1956.797, 976.320, 312.767) m
rotation: (-0.0081, 0.1977, 0.9802):20.2 deg

ScanWorld 1 (Leveled)
translation: (2006.858, 1017.498, 301.160) m
rotation: (0.0000, 0.0000, -1.0000):105.3 deg

ScanWorld 2 (Leveled)
translation: (2011.936, 991.451, 301.150) m
rotation: (0.0000, 0.0000, -1.0000):25.5 deg

ScanWorld 3 (Leveled)
translation: (1989.591, 997.754, 303.564) m
rotation: (0.0000, 0.0000, -1.0000):-112.1 deg

Unused ControlSpace Objects
071129_TopoLaMATRIZ_NEZ_def_cm (Leveled):
Vertex : TargetID : 0

I0.05.03_princ:
Vertex : TargetID : 008

I1.01.03 (Leveled):
Vertex : TargetID : 044
Vertex : TargetID : 046
Vertex : TargetID : 045

APPENDIX III/b

POINT CLOUD REGISTRATION DIAGNOSTICS AND CONSTRAINT CONTROL:

IGLESIA SAN FRANCISCO DEL BARÓN



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.

CFR

Consorzio
Ferrara
Ricerche

IGLESIA SAN FRANCISCO DEL BARÓN, VALPARAÍSO, CHILE

SCANWORLD REGISTER REPORT OF FINAL REGISTERING BY DANIEL BLERSCH @ DIAPReM
Development of Integrated Automatic Procedures for Restoration of Monuments
DEPARTMENT OF ARCHITECTURE - UNIVERSITY OF FERRARA - ITALY
DECEMBER 09, 2007

Status: VALID Registration

Mean Absolute Error:

for Enabled Constraints = 0.001 m

for Disabled Constraints = 0.000 m

Date: 2008.02.24 16:18:00

Database name : IGLESIA_SAN_FRANCISCO_DEL_BARON

Scanworlds:

E0.01.02

E0.01.01

E0.02.01

E0.01.03

I0.01.01

E0.01.04

E0.02.01.5

E0.01.02.5

E0.01.03.5

I0.01.03 (Levelled)

I0.01.05

I0.01.04

I0.01.07

EX.01.08

EX.01.09

I0.01.06

I0.01.05.5

I2.01.04

I2.01.05

080224_SANFRANCISCO_REG-REPORT.txt

I2.01.02

E2.02.01

I2.01.03

I2.01.01

E2.02.02

EX.01.02

EX.01.01

EX.02.01__NOO

IGLESIA SAN FRANCISCO DEL BARÓN, VALPARAÍSO, CHILE

SCANWORLD REGISTER REPORT OF FINAL REGISTERING BY DANIEL BLERSCH @ DIAPREM
Development of Integrated Automatic Procedures for Restoration of Monuments
DEPARTMENT OF ARCHITECTURE - UNIVERSITY OF FERRARA - ITALY
DECEMBER 09, 2007

Status: VALID Registration

Mean Absolute Error:

for Enabled Constraints = 0.001 m

for Disabled Constraints = 0.000 m

Date: 2008.02.24 16:18:00

Database name : IGLESIA_SAN_FRANCISCO_DEL_BARON

Scanworlds

E0.01.02
E0.01.01
E0.02.01
E0.01.03
I0.01.01
E0.01.04
E0.02.01.5
E0.01.02.5
E0.01.03.5
I0.01.03 (Leveled)
I0.01.05
I0.01.04
I0.01.07
EX.01.08
EX.01.09
I0.01.06
I0.01.05.5
I2.01.04
I2.01.05
I2.01.02
E2.02.01
I2.01.03
I2.01.01
E2.02.02
EX.01.02
EX.01.01
EX.02.01__NOO

Constraints

Name	Horz	Vert	ScanWorld	ScanWorld	Type	On/Off	Weight	Error	Error Vector
071127_TOTALE [071127_spa1le_connect [Auto 1]]	0.001, 0.000	m 0.001 m	E2.02.01	E0.01.02.5	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(-0.001 ,
071127_TOTALE [071127_spa1le_connect [Auto 2]]	-0.001, 0.001	m 0.002 m	E2.02.01	E0.01.02.5	Coincident: Vertex-Vertex	On	1.0000	0.002 m	(0.001 ,
071127_TOTALE [071127_spa1le_connect [Auto 3]]	0.000, 0.000	m 0.000 m	E2.02.01	E0.01.02.5	Coincident: Vertex-Vertex	On	1.0000	0.000 m	(0.000 ,
071127_TOTALE [071127_spa1le_connect [071121_SPALLA SX [Auto 1]]]	-0.001, 0.000	m 0.001 m	E2.02.01	E2.02.02	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(0.001 ,
071127_TOTALE [071127_spa1le_connect [071121_SPALLA SX [Auto 2]]]	0.000, 0.000	m 0.001 m	E2.02.01	E2.02.02	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(-0.001 ,
071127_TOTALE [071127_spa1le_connect [071121_SPALLA SX [Auto 3]]]	0.001, 0.000	m 0.001 m	E2.02.01	E2.02.02	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(0.000 ,
071127_TOTALE [071127_spa1le_connect [Auto 4]]	0.000, 0.000	m 0.001 m	E0.01.02.5	E0.01.04	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(0.001 ,
071127_TOTALE [071127_spa1le_connect [Auto 5]]	0.000, 0.000	m 0.001 m	E0.01.02.5	E0.01.04	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(-0.001 ,
071127_TOTALE [071127_spa1le_connect [Auto 6]]	0.001, 0.001	m 0.002 m	E0.01.02.5	E0.01.04	Coincident: Vertex-Vertex	On	1.0000	0.002 m	(0.001 ,
071127_TOTALE [071127_spa1le_connect [Auto 7]]	0.001, 0.000	m 0.001 m	E0.01.02.5	E0.01.04	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(0.000 ,
071127_TOTALE [071127_spa1le_connect [Auto 8]]	-0.002, 0.001	m 0.002 m	E0.01.02.5	E0.01.04	Coincident: Vertex-Vertex	On	1.0000	0.002 m	(-0.001 ,
071127_TOTALE [071127_spa1le_connect [Manual 1]]	0.000, 0.000	m 0.001 m	E0.01.04	EX.01.08	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(-0.001 ,
071127_TOTALE [071127_spa1le_connect [Manual 2]]	-0.002, 0.001	m 0.002 m	E0.01.04	EX.01.08	Coincident: Vertex-Vertex	On	1.0000	0.002 m	(-0.001 ,
071127_TOTALE [071127_spa1le_connect [Manual 3]]	-0.001, 0.001	m 0.001 m	EX.01.08	E2.02.01	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(0.000 ,
071127_TOTALE [071127_spa1le_connect [Manual 4]]	0.000, 0.000	m 0.000 m	EX.01.08	E2.02.02	Coincident: Vertex-Vertex	On	1.0000	0.000 m	(0.000 ,
071127_TOTALE [071127_spa1le_connect [Auto 9]]	-0.002, 0.001	m 0.002 m	E0.01.04	E0.02.01.5	Coincident: Vertex-Vertex	On	1.0000	0.002 m	(0.000 ,
071127_TOTALE [071127_spa1le_connect [Auto 10]]	0.000, -0.001	m 0.000 m	E0.01.04	E0.02.01.5	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(0.000 ,
071127_TOTALE [071127_spa1le_connect [Auto 11]]	0.002, 0.000	m 0.002 m	E0.01.04	E0.02.01.5	Coincident: Vertex-Vertex	On	1.0000	0.002 m	(0.000 ,
071127_TOTALE [071127_spa1le_connect [Auto 12]]	-0.001, 0.001	m 0.001 m	E0.01.04	E0.02.01.5	Coincident: Vertex-Vertex	On	1.0000	0.002 m	(-0.001 ,
071127_TOTALE [071127_spa1le_connect [Auto 13]]	0.000, 0.000	m 0.000 m	EX.01.08	E0.02.01.5	Coincident: Vertex-Vertex	On	1.0000	0.000 m	(0.000 ,
071127_TOTALE [071127_spa1le_connect [Auto 14]]	0.001, 0.000	m 0.001 m	EX.01.08	E0.02.01.5	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(-0.001 ,
071127_TOTALE [071127_spa1le_connect [Auto 15]]	0.001, 0.000	m 0.002 m	EX.01.08	E0.02.01.5	Coincident: Vertex-Vertex	On	1.0000	0.002 m	(0.001 ,
071127_TOTALE [071127_spa1le_connect [Manual 5]]	-0.001, 0.000	m 0.001 m	EX.01.08	I2.01.01	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(-0.001 ,
071127_TOTALE [071127_spa1le_connect [Manual 6]]	0.000, -0.001	m 0.000 m	EX.01.08	I2.01.01	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(0.000 ,
071127_TOTALE [071127_spa1le_connect [Manual 7]]	0.000, 0.000	m 0.001 m	E2.02.01	I2.01.01	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(0.001 ,
071127_TOTALE [071127_spa1le_connect [071121_CAMP_P01 [Auto 8]]]	-0.001, 0.000	m 0.001 m	I2.01.02	I2.01.01	Coincident: Vertex-Vertex	On	1.0000	0.001 m	(0.001 ,

Entity Name	Registration	Registration	Registration	Registration	Registration	Registration	Registration	Registration	Registration	
071127_TOTALE [071121_tot_01 [Auto 1]]	-0.001, -0.003] m	0.003 m	-0.003 m	E0.01.01	080224_SANFRANCISCO_REG-REPORT.txt I0.01.05.5	Coincident: Vertex-vertex	On	1.0000	0.004 m	(-0.002 ,
071127_TOTALE [071121_tot_01 [Auto 2]]	0.001, 0.003] m	0.001 m	0.003 m	E0.01.01	I0.01.05.5	Coincident: Vertex-vertex	On	1.0000	0.004 m	(-0.001 ,
071127_TOTALE [071121_tot_01 [Auto 3]]	-0.001, 0.002] m	0.002 m	0.002 m	E0.01.01	I0.01.05.5	Coincident: Vertex-vertex	On	1.0000	0.003 m	(0.002 ,
071127_TOTALE [071121_tot_01 [Auto 4]]	0.001, 0.000] m	0.001 m	0.000 m	E0.01.03	I0.01.05.5	Coincident: Vertex-vertex	On	1.0000	0.001 m	(0.000 ,
071127_TOTALE [071121_tot_01 [Auto 5]]	0.000, 0.000] m	0.000 m	0.000 m	E0.01.03	I0.01.05.5	Coincident: Vertex-vertex	On	1.0000	0.000 m	(0.000 ,
071127_TOTALE [071121_tot_01 [Auto 6]]	-0.002, 0.000] m	0.003 m	0.000 m	E0.01.03	I0.01.05.5	Coincident: Vertex-vertex	On	1.0000	0.003 m	(0.002 ,
071127_TOTALE [071121_tot_01 [Auto 7]]	0.001, 0.001] m	0.002 m	0.001 m	E0.01.03.5	I0.01.07	Coincident: Vertex-vertex	On	1.0000	0.003 m	(-0.002 ,
071127_TOTALE [071121_tot_01 [Auto 8]]	0.001, -0.001] m	0.001 m	-0.001 m	E0.01.03.5	I0.01.07	Coincident: Vertex-vertex	On	1.0000	0.002 m	(-0.001 ,
071127_TOTALE [071121_tot_01 [Auto 9]]	0.001, -0.002] m	0.001 m	-0.002 m	E0.01.03.5	I0.01.07	Coincident: Vertex-vertex	On	1.0000	0.002 m	(0.001 ,
Cloud/Mesh 1				E0.01.02	E0.01.01	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned [0.006 m]
Cloud/Mesh 2				E0.01.02	E0.02.01	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.008 m]
Cloud/Mesh 3				E0.01.02	E0.01.03	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.009 m]
Cloud/Mesh 4				E0.01.02	E0.01.04	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned [0.008 m]
Cloud/Mesh 5				E0.01.02	E0.01.03.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.007 m]
Cloud/Mesh 6				E0.01.02	I0.01.03 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned [0.009 m]
Cloud/Mesh 7				E0.01.01	E0.02.01	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned [0.008 m]
Cloud/Mesh 8				E0.01.01	E0.01.03	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned [0.007 m]
Cloud/Mesh 9				E0.01.01	E0.01.03.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned [0.007 m]
Cloud/Mesh 10				E0.01.01	I0.01.05.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned [0.008 m]
Cloud/Mesh 11				E0.02.01	E0.01.03	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned [0.008 m]
Cloud/Mesh 12				E0.02.01	E0.01.04	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.003 m	aligned [0.007 m]
Cloud/Mesh 13				E0.02.01	E0.01.02.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.007 m]
Cloud/Mesh 14				E0.02.01	E0.01.03.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned [0.006 m]
Cloud/Mesh 15				E0.01.03	E0.01.03.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.009 m]
Cloud/Mesh 16				E0.01.03	I0.01.05.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.007 m]
Cloud/Mesh 17				I0.01.01	I0.01.03 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.006 m]
Cloud/Mesh 18				I0.01.01	I0.01.07	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.007 m]
Cloud/Mesh 19				I0.01.01	I0.01.06	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.006 m]
Cloud/Mesh 20				I0.01.01	I0.01.05.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.006 m]
Cloud/Mesh 21				E0.01.04	E0.02.01.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned [0.006 m]
Cloud/Mesh 22				E0.01.04	E0.01.02.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned/underconstrained [0.009 m]
Cloud/Mesh 23				E0.01.04	E0.01.03.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.003 m	aligned [0.006 m]
Cloud/Mesh 24				E0.01.04	EX.01.08	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.003 m	aligned [0.007 m]
Cloud/Mesh 25				E0.02.01.5	E0.01.03.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned [0.007 m]
Cloud/Mesh 26				E0.02.01.5	EX.01.08	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned [0.006 m]
Cloud/Mesh 28				E0.01.02.5	E2.02.01	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned [0.007 m]
Cloud/Mesh 29				I0.01.03 (Levelled)	I0.01.04	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.005 m]
Cloud/Mesh 30				I0.01.03 (Levelled)	I0.01.07	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.005 m]
Cloud/Mesh 31				I0.01.03 (Levelled)	I0.01.05.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.006 m]
Cloud/Mesh 32				I0.01.05	I0.01.05.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.007 m]
Cloud/Mesh 33				I0.01.07	I0.01.06	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.008 m]
Cloud/Mesh 34				I0.01.06	I0.01.05.5	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.007 m]
Cloud/Mesh 35				I2.01.04	I2.01.03	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.008 m]
Cloud/Mesh 36				I2.01.05	I2.01.03	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.008 m]
Cloud/Mesh 37				I2.01.02	I2.01.03	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.002 m	aligned [0.007 m]
Cloud/Mesh 38				I2.01.02	I2.01.01	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.005 m]
071127_bomberos [Cloud/Mesh 1]				EX.01.02	E2.02.01	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.000 m	aligned [0.008 m]
071127_bomberos [Cloud/Mesh 2]				EX.01.01	E2.02.01	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.006 m]
071127_bomberos [Cloud/Mesh 3]				EX.01.01	EX.02.01__NOO	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.010 m]
071127_bomberos [Cloud/Mesh 4]				EX.02.01__NOO	E2.02.01	Cloud: Cloud/Mesh-Cloud/Mesh	On	1.0000	0.001 m	aligned [0.009 m]
Cloud/Mesh 1 [E0.01.02 : E0.01.01]										
Objective Function Value: 1.50872e-005 sq m										
Iterations: 100										
Overlap Point Count: 1566020										
Overlap Error Statistics										
RMS: 0.00636539 m										
AVG: 0.00380053 m										
MIN: 1.86201e-009 m										
MAX: 0.0499769 m										
Overlap Center: (-2.831, -1.074, 3.380) m										
Error after global registration: 1.27836e-006 sq m										
Translation: (-5.306, -2.318, 0.341) m										

Rotation: (0.0006, 0.0020, -1.0000):-111.6 deg
Cloud/Mesh 2 [E0.01.02 : E0.02.01]
Objective Function Value: 2.02413e-005 sq m
Iterations: 100
Overlap Point Count: 295032
Overlap Error Statistics
RMS: 0.00806316 m
AVG: 0.00476172 m
MIN: 5.23223e-009 m
MAX: 0.0495784 m
Overlap Center: (-1.472, 0.429, 3.243) m
Error after global registration: 6.97914e-007 sq m
Translation: (-0.775, -22.584, -3.517) m
Rotation: (0.0013, -0.0022, 1.0000):158.4 deg
Cloud/Mesh 3 [E0.01.02 : E0.01.03]
Objective Function Value: 2.81662e-005 sq m
Iterations: 100
Overlap Point Count: 944462
Overlap Error Statistics
RMS: 0.00899171 m
AVG: 0.00545616 m
MIN: 1.00782e-009 m
MAX: 0.0498951 m
Overlap Center: (-5.425, -2.516, 3.090) m
Error after global registration: 8.42405e-007 sq m
Translation: (-10.568, -4.793, 0.322) m
Rotation: (0.0031, 0.0059, -1.0000):-42.6 deg
Cloud/Mesh 4 [E0.01.02 : E0.01.04]
Objective Function Value: 2.25595e-005 sq m
Iterations: 100
Overlap Point Count: 128223
Overlap Error Statistics
RMS: 0.00757188 m
AVG: 0.0046903 m
MIN: 1.61985e-008 m
MAX: 0.0492565 m
Overlap Center: (-2.407, -4.030, 2.954) m
Error after global registration: 2.37119e-006 sq m
Translation: (27.464, -1.107, 0.781) m
Rotation: (-0.0036, 0.0061, 1.0000):-21.8 deg
Cloud/Mesh 5 [E0.01.02 : E0.01.03.5]
Objective Function Value: 1.56217e-005 sq m
Iterations: 100
Overlap Point Count: 547793
Overlap Error Statistics
RMS: 0.00650438 m
AVG: 0.00389899 m
MIN: 3.13143e-009 m
MAX: 0.0495286 m
Overlap Center: (-2.834, -0.433, 3.638) m
Error after global registration: 5.18866e-007 sq m
Translation: (6.733, -11.518, -2.280) m
Rotation: (-0.0006, -0.0009, 1.0000):-150.9 deg
Cloud/Mesh 6 [E0.01.02 : I0.01.03 (Leveled)]
Objective Function Value: 3.21239e-005 sq m
Iterations: 100
Overlap Point Count: 173531
Overlap Error Statistics
RMS: 0.00927757 m
AVG: 0.00572383 m
MIN: 9.87909e-008 m
MAX: 0.0494138 m
Overlap Center: (-0.076, 1.356, 1.383) m
Error after global registration: 1.98708e-006 sq m
Translation: (-3.300, 5.113, -0.160) m
Rotation: (-0.0049, 0.0034, 1.0000):-18.5 deg
Cloud/Mesh 7 [E0.01.01 : E0.02.01]
Objective Function Value: 1.92483e-005 sq m
Iterations: 100
Overlap Point Count: 527588
Overlap Error Statistics
RMS: 0.00783492 m
AVG: 0.00458157 m
MIN: 8.86231e-009 m
MAX: 0.0496998 m
Overlap Center: (0.698, -0.497, 3.277) m
Error after global registration: 2.31686e-006 sq m
Translation: (-20.515, 3.262, -3.825) m
Rotation: (-0.0016, 0.0062, -1.0000):-46.8 deg
Cloud/Mesh 8 [E0.01.01 : E0.01.03]
Objective Function Value: 1.5741e-005 sq m
Iterations: 100
Overlap Point Count: 1581578
Overlap Error Statistics
RMS: 0.00663418 m
AVG: 0.00396639 m
MIN: 3.04189e-009 m

MAX: 0.0497445 m
Overlap Center: (-0.092, 2.714, 3.059) m
Error after global registration: 2.88843e-006 sq m
Translation: (-0.365, 5.804, 0.001) m
Rotation: (-0.0023, 0.0019, -1.0000):69.0 deg
Cloud/Mesh 9 [E0.01.01 : E0.01.03.5]
Objective Function Value: 1.4683e-005 sq m
Iterations: 100
Overlap Point Count: 472707
Overlap Error Statistics
RMS: 0.00669532 m
AVG: 0.00383045 m
MIN: 1.10337e-008 m
MAX: 0.0499083 m
Overlap Center: (-0.158, 1.128, 3.480) m
Error after global registration: 1.39421e-006 sq m
Translation: (-12.989, -7.799, -2.633) m
Rotation: (-0.0005, 0.0012, -1.0000):-97.5 deg
Cloud/Mesh 10 [E0.01.01 : E0.01.05.5]
Objective Function Value: 1.33396e-005 sq m
Iterations: 100
Overlap Point Count: 130136
Overlap Error Statistics
RMS: 0.00774035 m
AVG: 0.00417883 m
MIN: 1.18897e-008 m
MAX: 0.0495307 m
Overlap Center: (4.023, 2.330, -0.856) m
Error after global registration: 1.53408e-006 sq m
Translation: (4.925, 4.593, -0.487) m
Rotation: (-0.0004, 0.0012, -1.0000):-141.8 deg
Cloud/Mesh 11 [E0.02.01 : E0.01.03]
Objective Function Value: 2.35867e-005 sq m
Iterations: 100
Overlap Point Count: 553478
Overlap Error Statistics
RMS: 0.00848942 m
AVG: 0.00510067 m
MIN: 4.9853e-009 m
MAX: 0.0497247 m
Overlap Center: (14.952, -15.168, 6.749) m
Error after global registration: 1.86778e-006 sq m
Translation: (15.672, -12.943, 3.736) m
Rotation: (0.0032, -0.0039, 1.0000):-115.8 deg
Cloud/Mesh 12 [E0.02.01 : E0.01.04]
Objective Function Value: 2.16813e-005 sq m
Iterations: 100
Overlap Point Count: 782827
Overlap Error Statistics
RMS: 0.00730714 m
AVG: 0.00441549 m
MIN: 5.2998e-009 m
MAX: 0.0496778 m
Overlap Center: (9.475, -14.342, 12.183) m
Error after global registration: 3.73398e-006 sq m
Translation: (-18.331, -30.377, 4.251) m
Rotation: (0.0028, -0.0011, 1.0000):179.8 deg
Cloud/Mesh 13 [E0.02.01 : E0.01.02.5]
Objective Function Value: 1.67039e-005 sq m
Iterations: 100
Overlap Point Count: 1171568
Overlap Error Statistics
RMS: 0.00667265 m
AVG: 0.00404655 m
MIN: 1.2568e-008 m
MAX: 0.0493228 m
Overlap Center: (11.427, -12.358, 10.281) m
Error after global registration: 3.56069e-007 sq m
Translation: (22.570, 11.975, -1.136) m
Rotation: (0.0205, 0.0102, 0.9997):-105.7 deg
Cloud/Mesh 14 [E0.02.01 : E0.01.03.5]
Objective Function Value: 1.39982e-005 sq m
Iterations: 100
Overlap Point Count: 1273811
Overlap Error Statistics
RMS: 0.00604531 m
AVG: 0.00364555 m
MIN: 6.45209e-009 m
MAX: 0.0497027 m
Overlap Center: (9.794, -14.044, 9.756) m
Error after global registration: 1.59376e-006 sq m
Translation: (-2.899, -13.060, 1.196) m
Rotation: (0.0033, 0.0025, 1.0000):50.8 deg
Cloud/Mesh 15 [E0.01.03 : E0.01.03.5]
Objective Function Value: 2.07698e-005 sq m
Iterations: 100
Overlap Point Count: 353367

Overlap Error Statistics
RMS: 0.00861479 m
AVG: 0.00492524 m
MIN: 1.60865e-010 m
MAX: 0.049754 m
Overlap Center: (0.692, -0.216, 2.830) m
Error after global registration: 5.14807e-007 sq m
Translation: (8.177, -16.649, -2.689) m
Rotation: (-0.0010, 0.0023, -1.0000):-166.6 deg
Cloud/Mesh 16 [E0.01.03 : I0.01.05.5]
Objective Function Value: 1.44297e-005 sq m
Iterations: 100
Overlap Point Count: 287798
Overlap Error Statistics
RMS: 0.00740294 m
AVG: 0.00406518 m
MIN: 3.64823e-008 m
MAX: 0.0498571 m
Overlap Center: (1.320, 2.982, 0.358) m
Error after global registration: 7.04469e-007 sq m
Translation: (3.027, 4.507, -0.476) m
Rotation: (-0.0005, 0.0024, -1.0000):149.3 deg
Cloud/Mesh 17 [I0.01.01 : I0.01.03 (Leveled)]
Objective Function Value: 1.10619e-005 sq m
Iterations: 100
Overlap Point Count: 232861
Overlap Error Statistics
RMS: 0.00594932 m
AVG: 0.00339172 m
MIN: 9.70355e-009 m
MAX: 0.0490888 m
Overlap Center: (8.276, 2.713, 2.459) m
Error after global registration: 6.5466e-007 sq m
Translation: (13.715, 3.890, -0.678) m
Rotation: (-0.0003, 0.0005, -1.0000):-42.8 deg
Cloud/Mesh 18 [I0.01.01 : I0.01.07]
Objective Function Value: 1.24658e-005 sq m
Iterations: 100
Overlap Point Count: 266318
Overlap Error Statistics
RMS: 0.00655098 m
AVG: 0.00364922 m
MIN: 3.14068e-008 m
MAX: 0.0498473 m
Overlap Center: (8.836, 1.039, 5.009) m
Error after global registration: 1.02357e-006 sq m
Translation: (13.594, 4.121, 5.016) m
Rotation: (0.0006, -0.0003, -1.0000):21.1 deg
Cloud/Mesh 19 [I0.01.01 : I0.01.06]
Objective Function Value: 1.06206e-005 sq m
Iterations: 100
Overlap Point Count: 248589
Overlap Error Statistics
RMS: 0.00624326 m
AVG: 0.00336841 m
MIN: 1.45515e-008 m
MAX: 0.0491547 m
Overlap Center: (9.703, -3.016, 5.707) m
Error after global registration: 6.09401e-007 sq m
Translation: (14.687, -6.847, 4.992) m
Rotation: (-0.0001, 0.0006, -1.0000):-129.6 deg
Cloud/Mesh 20 [I0.01.01 : I0.01.05.5]
Objective Function Value: 1.24937e-005 sq m
Iterations: 100
Overlap Point Count: 248732
Overlap Error Statistics
RMS: 0.00642643 m
AVG: 0.00354622 m
MIN: 3.02048e-008 m
MAX: 0.0497352 m
Overlap Center: (5.593, -4.317, 1.783) m
Error after global registration: 7.00543e-007 sq m
Translation: (13.807, -5.381, -0.662) m
Rotation: (0.0006, 0.0000, 1.0000):-45.4 deg
Cloud/Mesh 21 [E0.01.04 : E0.02.01.5]
Objective Function Value: 1.37075e-005 sq m
Iterations: 100
Overlap Point Count: 624283
Overlap Error Statistics
RMS: 0.00559852 m
AVG: 0.00350413 m
MIN: 1.8003e-008 m
MAX: 0.0493418 m
Overlap Center: (-27.381, -10.128, 19.295) m
Error after global registration: 2.97581e-006 sq m
Translation: (-21.006, 16.835, 0.414) m
Rotation: (0.0001, -0.0021, -1.0000):-54.6 deg

Cloud/Mesh 22 [E0.01.04 : E0.01.02.5]
 Objective Function Value: 2.01455e-005 sq m
 Iterations: 100
 Overlap Point Count: 400890
 Overlap Error Statistics
 RMS: 0.00881032 m
 AVG: 0.00503158 m
 MIN: 7.60765e-009 m
 MAX: 0.0496843 m
 Overlap Center: (-27.818, -16.354, 7.960) m
 Error after global registration: 2.92529e-006 sq m
 Translation: (-40.819, -42.454, -5.241) m
 Rotation: (0.0176, -0.0242, 0.9996):74.5 deg

Cloud/Mesh 23 [E0.01.04 : E0.01.03.5]
 Objective Function Value: 1.64986e-005 sq m
 Iterations: 69
 Overlap Point Count: 1050207
 Overlap Error Statistics
 RMS: 0.00626509 m
 AVG: 0.00391006 m
 MIN: 4.94402e-009 m
 MAX: 0.0496644 m
 Overlap Center: (-26.053, -13.610, 7.409) m
 Error after global registration: 4.15551e-006 sq m
 Translation: (-15.402, -17.353, -3.003) m
 Rotation: (-0.0011, 0.0008, -1.0000):129.1 deg

Cloud/Mesh 24 [E0.01.04 : EX.01.08]
 Objective Function Value: 1.95195e-005 sq m
 Iterations: 100
 Overlap Point Count: 389363
 Overlap Error Statistics
 RMS: 0.00661352 m
 AVG: 0.00422265 m
 MIN: 2.94252e-008 m
 MAX: 0.0494373 m
 Overlap Center: (-27.584, -11.183, 19.103) m
 Error after global registration: 4.55597e-006 sq m
 Translation: (-24.283, -5.116, 10.085) m
 Rotation: (0.0246, 0.0103, 0.9996):-102.9 deg

Cloud/Mesh 25 [E0.02.01.5 : E0.01.03.5]
 Objective Function Value: 1.79828e-005 sq m
 Iterations: 100
 Overlap Point Count: 102286
 Overlap Error Statistics
 RMS: 0.00697408 m
 AVG: 0.0042406 m
 MIN: 4.34585e-009 m
 MAX: 0.0494487 m
 Overlap Center: (-26.718, -10.870, 20.578) m
 Error after global registration: 4.59939e-006 sq m
 Translation: (-24.630, -24.350, -3.442) m
 Rotation: (-0.0003, -0.0009, 1.0000):176.3 deg

Cloud/Mesh 26 [E0.02.01.5 : EX.01.08]
 Objective Function Value: 1.56195e-005 sq m
 Iterations: 100
 Overlap Point Count: 500304
 Overlap Error Statistics
 RMS: 0.00570419 m
 AVG: 0.0036673 m
 MIN: 2.55926e-009 m
 MAX: 0.0487659 m
 Overlap Center: (-26.734, -10.255, 18.500) m
 Error after global registration: 1.63552e-006 sq m
 Translation: (-19.815, -10.019, 9.646) m
 Rotation: (-0.0203, 0.0012, -0.9998):157.5 deg

Cloud/Mesh 28 [E0.01.02.5 : E2.02.01]
 Objective Function Value: 2.19637e-005 sq m
 Iterations: 100
 Overlap Point Count: 314956
 Overlap Error Statistics
 RMS: 0.00666783 m
 AVG: 0.00431322 m
 MIN: 4.56014e-010 m
 MAX: 0.0491133 m
 Overlap Center: (28.740, -2.011, 24.153) m
 Error after global registration: 1.46997e-006 sq m
 Translation: (23.509, 3.186, 14.506) m
 Rotation: (-0.0031, 0.0092, -1.0000):-117.3 deg

Cloud/Mesh 29 [I0.01.03 (Leveled) : I0.01.04]
 Objective Function Value: 1.00105e-005 sq m
 Iterations: 100
 Overlap Point Count: 216998
 Overlap Error Statistics
 RMS: 0.0054212 m
 AVG: 0.00313904 m
 MIN: 4.00169e-009 m
 MAX: 0.0497282 m

Overlap Center: (1.531, -0.732, 1.517) m
Error after global registration: 7.05645e-007 sq m
Translation: (3.613, 1.172, -0.965) m
Rotation: (-0.0057, -0.0025, -1.0000):63.8 deg
Cloud/Mesh 30 [I0.01.03 (Levelled) : I0.01.07]
Objective Function Value: 8.29607e-006 sq m
Iterations: 100
Overlap Point Count: 55659
Overlap Error Statistics
RMS: 0.00507586 m
AVG: 0.00274603 m
MIN: 9.46793e-008 m
MAX: 0.047983 m
Overlap Center: (-5.102, 4.550, 4.510) m
Error after global registration: 7.58903e-007 sq m
Translation: (0.071, 0.252, 5.694) m
Rotation: (-0.0001, -0.0002, 1.0000):-63.9 deg
Cloud/Mesh 31 [I0.01.03 (Levelled) : I0.01.05.5]
Objective Function Value: 1.41143e-005 sq m
Iterations: 100
Overlap Point Count: 70000
Overlap Error Statistics
RMS: 0.00648199 m
AVG: 0.00377172 m
MIN: 2.1789e-008 m
MAX: 0.049145 m
Overlap Center: (-5.666, -0.368, 1.736) m
Error after global registration: 3.67799e-007 sq m
Translation: (-6.228, -6.867, 0.018) m
Rotation: (-0.0004, 0.0003, -1.0000):88.2 deg
Cloud/Mesh 32 [I0.01.05 : I0.01.05.5]
Objective Function Value: 1.67233e-005 sq m
Iterations: 100
Overlap Point Count: 282065
Overlap Error Statistics
RMS: 0.00664755 m
AVG: 0.00400624 m
MIN: 3.21622e-008 m
MAX: 0.0494526 m
Overlap Center: (-0.669, -2.938, 2.542) m
Error after global registration: 1.41863e-007 sq m
Translation: (-0.288, -4.254, 0.965) m
Rotation: (-0.0037, 0.0014, -1.0000):-116.2 deg
Cloud/Mesh 33 [I0.01.07 : I0.01.06]
Objective Function Value: 1.6674e-005 sq m
Iterations: 100
Overlap Point Count: 205968
Overlap Error Statistics
RMS: 0.00802723 m
AVG: 0.0043424 m
MIN: 3.49281e-008 m
MAX: 0.0497514 m
Overlap Center: (0.912, -3.656, 0.004) m
Error after global registration: 7.70535e-007 sq m
Translation: (4.966, -9.840, -0.022) m
Rotation: (-0.0002, 0.0004, -1.0000):-150.7 deg
Cloud/Mesh 34 [I0.01.06 : I0.01.05.5]
Objective Function Value: 1.39181e-005 sq m
Iterations: 100
Overlap Point Count: 31899
Overlap Error Statistics
RMS: 0.00706798 m
AVG: 0.00384883 m
MIN: 1.52451e-007 m
MAX: 0.0488305 m
Overlap Center: (11.391, 9.216, -1.410) m
Error after global registration: 7.10148e-007 sq m
Translation: (1.688, -0.254, -5.656) m
Rotation: (-0.0003, 0.0006, -1.0000):175.0 deg
Cloud/Mesh 35 [I2.01.04 : I2.01.03]
Objective Function Value: 2.08915e-005 sq m
Iterations: 100
Overlap Point Count: 252412
Overlap Error Statistics
RMS: 0.00768003 m
AVG: 0.00461609 m
MIN: 6.24959e-009 m
MAX: 0.0494201 m
Overlap Center: (1.105, -1.591, -0.134) m
Error after global registration: 5.94841e-007 sq m
Translation: (1.948, -3.328, -0.755) m
Rotation: (0.0305, -0.0353, -0.9989):-168.6 deg
Cloud/Mesh 36 [I2.01.05 : I2.01.03]
Objective Function Value: 1.81421e-005 sq m
Iterations: 100
Overlap Point Count: 56719
Overlap Error Statistics

RMS: 0.00777848 m
AVG: 0.00452911 m
MIN: 3.94688e-008 m
MAX: 0.0491203 m
Overlap Center: (1.745, -0.299, -0.953) m
Error after global registration: 1.24811e-006 sq m
Translation: (0.750, 2.729, -4.629) m
Rotation: (-0.0848, -0.0215, 0.9962):-64.9 deg
Cloud/Mesh 37 [I2.01.02 : I2.01.03]
Objective Function Value: 1.26577e-005 sq m
Iterations: 100
Overlap Point Count: 52407
Overlap Error Statistics
RMS: 0.00675656 m
AVG: 0.00373535 m
MIN: 1.05923e-007 m
MAX: 0.0490364 m
Overlap Center: (-0.039, -1.481, 3.498) m
Error after global registration: 2.91763e-006 sq m
Translation: (-0.331, -3.252, 2.989) m
Rotation: (0.0204, -0.0653, -0.9977):-119.3 deg
Cloud/Mesh 38 [I2.01.02 : I2.01.01]
Objective Function Value: 9.18757e-006 sq m
Iterations: 100
Overlap Point Count: 111044
Overlap Error Statistics
RMS: 0.00480008 m
AVG: 0.00287412 m
MIN: 6.35141e-009 m
MAX: 0.049288 m
Overlap Center: (-0.319, -0.884, 0.664) m
Error after global registration: 6.14218e-007 sq m
Translation: (-0.346, -1.452, -2.155) m
Rotation: (-0.0337, 0.0149, 0.9993):40.4 deg
071127_bomberos [Cloud/Mesh 1] [EX.01.02 : E2.02.01]
Objective Function Value: 2.54695e-005 sq m
Iterations: 100
Overlap Point Count: 396850
Overlap Error Statistics
RMS: 0.00795644 m
AVG: 0.00507819 m
MIN: 1.49732e-008 m
MAX: 0.0489357 m
Overlap Center: (0.423, 8.886, -2.112) m
Error after global registration: 1.388e-027 sq m
Translation: (-0.260, 4.870, -2.673) m
Rotation: (0.0345, -0.0359, 0.9988):-122.0 deg
071127_bomberos [Cloud/Mesh 2] [EX.01.01 : E2.02.01]
Objective Function Value: 2.37422e-005 sq m
Iterations: 86
Overlap Point Count: 239618
Overlap Error Statistics
RMS: 0.00631902 m
AVG: 0.00434546 m
MIN: 3.32598e-008 m
MAX: 0.0498495 m
Overlap Center: (1.895, 11.796, 7.334) m
Error after global registration: 3.28314e-007 sq m
Translation: (-0.232, 4.870, -2.796) m
Rotation: (0.0329, -0.0353, 0.9988):-122.0 deg
071127_bomberos [Cloud/Mesh 3] [EX.01.01 : EX.02.01_N00]
Objective Function Value: 5.64122e-005 sq m
Iterations: 100
Overlap Point Count: 166091
Overlap Error Statistics
RMS: 0.00980943 m
AVG: 0.00671944 m
MIN: 1.62775e-009 m
MAX: 0.0490632 m
Overlap Center: (1.856, 12.020, 10.815) m
Error after global registration: 3.9979e-007 sq m
Translation: (3.688, -0.192, 5.220) m
Rotation: (0.1453, 0.9826, 0.1155):3.4 deg
071127_bomberos [Cloud/Mesh 4] [EX.02.01_N00 : E2.02.01]
Objective Function Value: 4.33981e-005 sq m
Iterations: 60
Overlap Point Count: 64365
Overlap Error Statistics
RMS: 0.0093665 m
AVG: 0.00630642 m
MIN: 1.92729e-008 m
MAX: 0.0494001 m
Overlap Center: (-2.005, 12.055, 4.487) m
Error after global registration: 4.14204e-007 sq m
Translation: (-3.393, 5.014, -8.278) m
Rotation: (0.0054, -0.0144, 0.9999):-122.3 deg

ScanWorld Transformations

E0.01.02

translation: (4.752, -3.799, 0.164) m
rotation: (-0.0039, 0.0029, 1.0000):18.5 deg

E0.01.01

translation: (0.455, -7.679, 0.514) m
rotation: (-0.0004, -0.0008, 1.0000):130.1 deg

E0.02.01

translation: (11.174, -25.469, -3.327) m
rotation: (0.0021, -0.0011, 1.0000):176.9 deg

E0.01.03

translation: (-3.751, -11.696, 0.504) m
rotation: (-0.0020, -0.0029, 1.0000):61.1 deg

I0.01.01

translation: (-12.708, 6.461, 0.683) m
rotation: (-0.0002, 0.0007, -1.0000):42.8 deg

E0.01.04

translation: (31.155, 3.849, 0.916) m
rotation: (0.0007, -0.0295, -0.9996):3.3 deg

E0.02.01.5

translation: (11.150, 21.858, 1.293) m
rotation: (-0.0008, 0.0007, 1.0000):51.4 deg

E0.01.02.5

translation: (-12.024, -36.187, -4.396) m
rotation: (0.0169, -0.0268, 0.9995):71.2 deg

E0.01.03.5

translation: (14.787, -12.591, -2.113) m
rotation: (-0.0003, 0.0005, -1.0000):132.4 deg

I0.01.03 (Leveled)

translation: (0.000, 0.000, 0.000) m
rotation: (0.0000, 1.0000, 0.0000):0.0 deg

I0.01.05

translation: (-8.250, -10.615, -0.966) m
rotation: (0.0018, -0.0029, 1.0000):155.6 deg

I0.01.04

translation: (3.611, 1.171, -0.965) m
rotation: (-0.0057, -0.0025, -1.0000):63.8 deg

I0.01.07

translation: (0.072, 0.252, 5.693) m
rotation: (0.0000, 0.0001, -1.0000):63.9 deg

EX.01.08

translation: (6.602, 0.132, 10.959) m
rotation: (-0.0237, -0.0099, -0.9997):106.2 deg

EX.01.09

translation: (2.729, -1.682, 9.583) m
rotation: (0.0135, -0.0264, -0.9996):165.8 deg

I0.01.06

translation: (-6.576, -8.541, 5.672) m
rotation: (0.0000, -0.0005, 1.0000):86.9 deg

I0.01.05.5

translation: (-6.228, -6.866, 0.018) m
rotation: (-0.0005, 0.0003, -1.0000):88.2 deg

I2.01.04

translation: (-1.094, -8.385, 18.102) m
rotation: (-0.0011, 0.0010, 1.0000):86.8 deg

I2.01.05

translation: (0.012, -8.228, 21.979) m
rotation: (-0.0018, -0.0011, -1.0000):39.9 deg

I2.01.02

translation: (-0.215, -8.787, 14.441) m
rotation: (0.0066, 0.0121, 0.9999):136.1 deg

E2.02.01

translation: (-7.669, -13.416, 10.960) m
rotation: (0.0014, 0.0214, -0.9998):171.5 deg

I2.01.03

translation: (2.337, -6.626, 17.345) m

rotation: (0.0579, -0.0067, -0.9983):104.7 deg

I2.01.01

translation: (0.998, -8.014, 12.249) m

rotation: (0.0005, -0.0007, 1.0000):176.5 deg

E2.02.02

translation: (-5.289, -9.915, 9.715) m

rotation: (0.0197, -0.0277, -0.9994):75.4 deg

EX.01.02

translation: (-11.302, -16.669, 13.634) m

rotation: (-0.0230, -0.0554, -0.9982):49.7 deg

EX.01.01

translation: (-11.319, -16.648, 13.757) m

rotation: (-0.0221, -0.0520, -0.9984):49.7 deg

EX.02.01__NOO

translation: (-9.246, -19.393, 19.145) m

rotation: (0.0171, 0.0079, -0.9998):49.2 deg

Unused ControlSpace Objects

E0.01.01:

vertex : unlabeled

E0.02.01.5:

vertex : unlabeled

vertex : unlabeled

E2.02.01:

vertex : unlabeled

I2.01.01:

vertex : unlabeled

APPENDIX III/c

POINT CLOUD REGISTRATION DIAGNOSTICS AND CONSTRAINT CONTROL:

IGLESIA HERMANAS DE LA DIVINA PROVIDENCIA DEL ALMENRDÁL



DIAPReM

Development of Integrated Automatic Procedures for Restoration of Monuments



università di ferrara

DA SEICENTO ANNI GUARDIAMO AVANTI.

CFR

Consorzio
Ferrara
Ricerche

IGLESIA HERMANAS DE LA DIVINA PROVIDENCIA DEL ALMENDRÁL, VALPARAÍSO, CHILE

SCANWORLD REGISTER REPORT OF FINAL REGISTERING BY DANIEL BLERSCH @ DIAPReM
Development of Integrated Automatic Procedures for Restoration of Monuments
DEPARTMENT OF ARCHITECTURE - UNIVERSITY OF FERRARA - ITALY
JANUARY 06, 2008

Status: VALID Registration

Mean Absolute Error:

for Enabled Constraints = 0.001 m

for Disabled Constraints = 0.000 m

Date: 2008.02.24 16:57:02

Database name : IGLESIA_CONGR_HERMANAS_DE_LA_DIVINA_PROVIDENCIA

Scanworlds:

E0.01.01 (Levelled)

E0.01.02 (Levelled)

E1.01.01 (Levelled)

E3.01.01

E1.xx.01_target_scan

E0.xx.02

E1.xx.02

I0.01.01

I3.01.01

I2.01.02 (Levelled)

I2.01.03 (Levelled)

I0.01.02 (Levelled)

I1.02.02

I1.02.03

I1.01.01

I1.01.02

I1.01.03

I0.01.03_2targets

IGLESIA HERMANAS DE LA DIVINA PROVIDENCIA DEL ALMENDRAL, VALPARAISO, CHILE
 SCANWORLD REGISTER REPORT OF FINAL REGISTERING BY DANIEL BLERSCH @ DIAPREM
 Development of Integrated Automatic Procedures for Restoration of Monuments
 DEPARTMENT OF ARCHITECTURE - UNIVERSITY OF FERRARA - ITALY
 JANUARY 06, 2008

Status: VALID Registration

Mean Absolute Error:

for Enabled Constraints = 0.001 m
 for Disabled Constraints = 0.000 m

Date: 2008.02.24 16:57:02

Database name : IGLESIA_CONGR_HERMANAS_DE_LA_DIVINA_PROVIDENCIA

Scanworlds:

E0.01.01 (Leveled)
 E0.01.02 (Leveled)
 E1.01.01 (Leveled)
 E3.01.01
 E1.xx.01_target_scan
 E0.xx.02
 E1.xx.02
 I0.01.01
 I3.01.01
 I2.01.02 (Leveled)
 I2.01.03 (Leveled)
 I0.01.02 (Leveled)
 I1.02.02
 I1.02.03
 I1.01.01
 I1.01.02
 I1.01.03
 I0.01.03_2targets

Constraints

Name	Horz	vert	Scanworld	Scanworld	Type	On/Off	weight	Error	Error Vector
Auto 1	0.001 m	0.000 m	E0.01.01 (Leveled)	E0.01.02 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.001 , 0.000, 0.000) m
Auto 2	0.001 m	0.000 m	E0.01.01 (Leveled)	E0.01.02 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.000 , 0.001, 0.000) m
Auto 3	0.001 m	0.001 m	E0.01.01 (Leveled)	E0.01.02 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.000 , 0.001, 0.001) m
Auto 4	0.003 m	0.000 m	E0.01.01 (Leveled)	E0.01.02 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.003 m	(0.003 , 0.002, 0.000) m
Auto 5	0.003 m	-0.001 m	E0.01.01 (Leveled)	E0.01.02 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.003 m	(-0.001 , -0.003, -0.001) m
Auto 6	0.002 m	0.000 m	E0.01.01 (Leveled)	E0.01.02 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.002 m	(0.000 , -0.001, 0.000) m
Auto 7	0.001 m	-0.001 m	E0.01.01 (Leveled)	E0.01.02 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.000 , 0.000, -0.001) m
Auto 8	0.001 m	0.000 m	E0.01.01 (Leveled)	E0.01.02 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(-0.001 , 0.000, 0.000) m
Auto 9	0.003 m	0.000 m	E0.01.01 (Leveled)	E1.01.01 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.003 m	(0.000 , 0.003, 0.000) m
Auto 10	0.000 m	0.000 m	E0.01.01 (Leveled)	E1.01.01 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.000 , 0.000, 0.000) m
Auto 11	0.001 m	0.000 m	E0.01.01 (Leveled)	E1.01.01 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.000 , 0.001, 0.000) m
Auto 12	0.004 m	0.001 m	E0.01.01 (Leveled)	E1.01.01 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.004 m	(-0.002 , -0.003, 0.001) m
Auto 13	0.000 m	0.001 m	E0.01.01 (Leveled)	E1.01.01 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.000 , 0.000, 0.001) m
Auto 14	0.001 m	0.000 m	E0.01.01 (Leveled)	E1.01.01 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.000 , 0.001, 0.000) m
Auto 15	0.001 m	0.001 m	E0.01.02 (Leveled)	E1.01.01 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.001 , 0.000, 0.001) m
Auto 16	0.001 m	-0.001 m	E0.01.02 (Leveled)	E1.01.01 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(-0.001 , 0.000, -0.001) m
Auto 17	0.002 m	0.000 m	E0.01.02 (Leveled)	E1.01.01 (Leveled)	Coincident: Vertex-Vertex	on	1.0000	0.002 m	(0.000 , 0.002, 0.000) m
Auto 18	0.004 m	0.000 m	E0.01.02 (Leveled)	E3.01.01	Coincident: Vertex-Vertex	on	1.0000	0.004 m	(0.001 , 0.004, 0.000) m
Auto 19	0.003 m	0.000 m	E0.01.02 (Leveled)	E3.01.01	Coincident: Vertex-Vertex	on	1.0000	0.003 m	(0.002 , 0.002, 0.000) m
Auto 20	0.001 m	0.000 m	E0.01.02 (Leveled)	E3.01.01	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.000 , -0.001, 0.000) m
Auto 21	0.006 m	0.000 m	E0.01.02 (Leveled)	E3.01.01	Coincident: Vertex-Vertex	on	1.0000	0.006 m	(-0.003 , -0.005, 0.000) m
Auto 22	0.001 m	0.001 m	E1.01.01 (Leveled)	E1.xx.01_target_scan	Coincident: Vertex-Vertex	on	1.0000	0.002 m	(-0.001 , 0.001, 0.001) m
Auto 23	0.001 m	0.000 m	E1.01.01 (Leveled)	E1.xx.01_target_scan	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.001 , 0.000, 0.000) m
Auto 24	0.002 m	0.000 m	E1.01.01 (Leveled)	E1.xx.01_target_scan	Coincident: Vertex-Vertex	on	1.0000	0.002 m	(-0.001 , 0.001, 0.000) m
Auto 25	0.000 m	0.000 m	E1.01.01 (Leveled)	E1.xx.01_target_scan	Coincident: Vertex-Vertex	on	1.0000	0.000 m	(0.000 , 0.000, 0.000) m
Auto 26	0.002 m	0.000 m	E1.xx.01_target_scan	E0.xx.02	Coincident: Vertex-Vertex	on	1.0000	0.002 m	(-0.001 , 0.001, 0.000) m
Auto 27	0.002 m	0.000 m	E1.xx.01_target_scan	E0.xx.02	Coincident: Vertex-Vertex	on	1.0000	0.002 m	(0.002 , 0.001, 0.000) m
Auto 28	0.001 m	0.000 m	E1.xx.01_target_scan	E0.xx.02	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.000 , 0.000, 0.000) m
Auto 29	0.001 m	0.000 m	E0.xx.02	E1.xx.02	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(-0.001 , 0.001, 0.000) m
Auto 30	0.000 m	0.000 m	E0.xx.02	E1.xx.02	Coincident: Vertex-Vertex	on	1.0000	0.000 m	(0.000 , 0.000, 0.000) m
Auto 31	0.001 m	0.000 m	E0.xx.02	E1.xx.02	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.000 , 0.001, 0.000) m
Auto 32	0.001 m	0.000 m	E0.01.02 (Leveled)	I0.01.01	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.001 , -0.001, 0.000) m
Auto 33	0.000 m	0.000 m	E0.01.02 (Leveled)	I0.01.01	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.000 , 0.000, 0.000) m
Auto 34			E0.01.02 (Leveled)	I0.01.01	Coincident: Vertex-Vertex	on	1.0000	0.000 m	(0.000 , 0.000, 0.000) m

0.000 m	0.000 m								
Auto 57	0.002 m	-0.001 m	E1.01.01 (Levelled)	I1.01.02	Coincident: Vertex-Vertex	on	1.0000	0.002 m	(0.000 , 0.002, -0.001) m
Manual 1	0.001 m	0.000 m	E0.01.01 (Levelled)	I0.01.03_2targets	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(0.001 , 0.000, 0.000) m
Manual 2	0.001 m	0.000 m	E0.01.01 (Levelled)	I0.01.03_2targets	Coincident: Vertex-Vertex	on	1.0000	0.001 m	(-0.001 , -0.001, 0.000) m
Cloud/Mesh 1	E0.01.01 (Levelled)	I0.01.03_2targets	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned [0.006 m]		
Cloud/Mesh 2	E0.01.01 (Levelled)	E0.01.02 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned [0.006 m]		
Cloud/Mesh 3	E0.01.01 (Levelled)	E1.01.01 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned [0.004 m]		
Cloud/Mesh 5	E0.01.02 (Levelled)	E1.01.01 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m	aligned [0.007 m]		
Cloud/Mesh 6	E0.01.02 (Levelled)	I0.01.03_2targets	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.003 m	aligned [0.006 m]		
Cloud/Mesh 7	E0.01.02 (Levelled)	E1.xx.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.003 m	aligned [0.006 m]		
Cloud/Mesh 8	E1.01.01 (Levelled)	E0.xx.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m	aligned/underconstrained [0.006 m]		
Cloud/Mesh 9	I0.01.01	I0.01.02 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.000 m	aligned [0.007 m]		
Cloud/Mesh 10	I0.01.01	I1.01.01	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned [0.007 m]		
Cloud/Mesh 11	I0.01.01	I1.01.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned [0.006 m]		
Cloud/Mesh 12	I0.01.01	I1.01.03	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned [0.007 m]		
Cloud/Mesh 13	I0.01.02 (Levelled)	I1.01.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned/underconstrained [0.005 m]		
Cloud/Mesh 14	I0.01.02 (Levelled)	I0.01.03_2targets	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned/underconstrained [0.005 m]		
Cloud/Mesh 15	E3.01.01	I3.01.01	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned [0.006 m]		
Cloud/Mesh 16	I3.01.01	I2.01.03 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned/underconstrained [0.006 m]		
Cloud/Mesh 17	I1.02.02	I1.02.03	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned [0.005 m]		
Cloud/Mesh 18	I1.02.02	I1.01.01	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned [0.008 m]		
Cloud/Mesh 19	I1.02.03	I1.01.01	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned [0.006 m]		
Cloud/Mesh 20	E0.xx.02	E1.xx.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.002 m	aligned [0.006 m]		
Cloud/Mesh 21	I2.01.02 (Levelled)	I2.01.03 (Levelled)	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.000 m	aligned/underconstrained [0.005 m]		
Cloud/Mesh 22	I1.01.01	I1.01.02	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned [0.007 m]		
Cloud/Mesh 23	I1.01.01	I1.01.03	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned [0.005 m]		
Cloud/Mesh 24	I1.01.02	I1.01.03	Cloud: Cloud/Mesh-Cloud/Mesh	on	1.0000	0.001 m	aligned [0.007 m]		

Cloud/Mesh 1 [E0.01.01 (Levelled) : I0.01.03_2targets]

Objective Function Value: 1.01777e-005 sq m

Iterations: 100

Overlap Point Count: 379181

Overlap Error Statistics

RMS: 0.00639168 m

AVG: 0.00332481 m

MIN: 2.45973e-008 m

MAX: 0.0493047 m

Overlap Center: (0.584, -10.251, -0.167) m

Error after global registration: 2.16435e-007 sq m

Translation: (2.924, -12.765, -0.315) m

Rotation: (0.0003, -0.0004, 1.0000):-142.3 deg

Cloud/Mesh 2 [E0.01.01 (Levelled) : E0.01.02 (Levelled)]

Objective Function Value: 1.02458e-005 sq m

Iterations: 100

Overlap Point Count: 528212

Overlap Error Statistics

RMS: 0.00584771 m

AVG: 0.00319658 m

MIN: 3.61259e-009 m

MAX: 0.0495294 m

Overlap Center: (9.372, -13.670, 6.596) m

Error after global registration: 3.15285e-007 sq m

Translation: (22.902, -3.389, -0.103) m

Rotation: (0.0000, 0.0001, -1.0000):131.0 deg

Cloud/Mesh 3 [E0.01.01 (Levelled) : E1.01.01 (Levelled)]

Objective Function Value: 7.34354e-006 sq m

Iterations: 100

Overlap Point Count: 694640

Overlap Error Statistics

RMS: 0.00432759 m

AVG: 0.00258208 m

MIN: 3.66322e-010 m

MAX: 0.0497486 m

Overlap Center: (3.282, -15.484, 9.471) m

Error after global registration: 5.28301e-007 sq m

Translation: (-15.427, -2.354, 5.913) m

Rotation: (-0.0001, -0.0001, 1.0000):89.3 deg

Cloud/Mesh 5 [E0.01.02 (Levelled) : E1.01.01 (Levelled)]

Objective Function Value: 8.80981e-006 sq m

Iterations: 100

Overlap Point Count: 279867

Overlap Error Statistics

RMS: 0.00653009 m

AVG: 0.00330349 m

MIN: 7.95684e-009 m

MAX: 0.049539 m
Overlap Center: (17.836, -3.999, 8.595) m
Error after global registration: 2.17182e-006 sq m
Translation: (24.380, -29.594, 6.012) m
Rotation: (0.0000, -0.0002, 1.0000):-139.7 deg
Cloud/Mesh 6 [E0.01.02 (Leveled) : I0.01.03_2targets]
Objective Function Value: 1.44482e-005 sq m
Iterations: 100
Overlap Point Count: 102090
Overlap Error Statistics
RMS: 0.00637729 m
AVG: 0.00381748 m
MIN: 1.48316e-008 m
MAX: 0.0467558 m
Overlap Center: (19.858, -12.500, 0.037) m
Error after global registration: 5.67876e-006 sq m
Translation: (20.185, -8.926, -0.214) m
Rotation: (0.0069, -0.0001, 1.0000):-11.3 deg
Cloud/Mesh 7 [E0.01.02 (Leveled) : E1.xx.02]
Objective Function Value: 1.07808e-005 sq m
Iterations: 100
Overlap Point Count: 141094
Overlap Error Statistics
RMS: 0.00607948 m
AVG: 0.00325119 m
MIN: 3.86018e-008 m
MAX: 0.0483944 m
Overlap Center: (20.810, 1.701, 13.671) m
Error after global registration: 7.04577e-006 sq m
Translation: (29.795, 51.215, -4.149) m
Rotation: (0.0006, -0.0002, 1.0000):-101.5 deg
Cloud/Mesh 8 [E1.01.01 (Leveled) : E0.xx.02]
Objective Function Value: 1.03669e-005 sq m
Iterations: 100
Overlap Point Count: 460513
Overlap Error Statistics
RMS: 0.00637973 m
AVG: 0.00329683 m
MIN: 1.2528e-008 m
MAX: 0.0497755 m
Overlap Center: (-25.023, -17.263, 2.418) m
Error after global registration: 2.09364e-006 sq m
Translation: (-74.630, -12.608, -11.486) m
Rotation: (0.0001, -0.0004, 1.0000):179.7 deg
Cloud/Mesh 9 [I0.01.01 : I0.01.02 (Leveled)]
Objective Function Value: 1.69041e-005 sq m
Iterations: 100
Overlap Point Count: 691146
Overlap Error Statistics
RMS: 0.00713524 m
AVG: 0.00421103 m
MIN: 1.56001e-009 m
MAX: 0.049529 m
Overlap Center: (-0.393, -10.936, 5.286) m
Error after global registration: 7.63324e-008 sq m
Translation: (-0.489, -18.018, 0.005) m
Rotation: (-0.0108, 0.0059, 0.9999):77.1 deg
Cloud/Mesh 10 [I0.01.01 : I1.01.01]
Objective Function Value: 1.51429e-005 sq m
Iterations: 100
Overlap Point Count: 79069
Overlap Error Statistics
RMS: 0.00678075 m
AVG: 0.00398416 m
MIN: 1.19653e-007 m
MAX: 0.0493231 m
Overlap Center: (-0.478, 1.034, 13.268) m
Error after global registration: 3.3142e-007 sq m
Translation: (2.191, -3.602, 12.917) m
Rotation: (-0.0161, -0.0101, -0.9998):46.4 deg
Cloud/Mesh 11 [I0.01.01 : I1.01.02]
Objective Function Value: 1.2588e-005 sq m
Iterations: 100
Overlap Point Count: 95006
Overlap Error Statistics
RMS: 0.0064086 m
AVG: 0.00369757 m
MIN: 3.02094e-008 m
MAX: 0.0482447 m
Overlap Center: (0.125, 0.074, 13.390) m
Error after global registration: 1.03351e-006 sq m
Translation: (2.237, 4.393, 12.827) m
Rotation: (-0.0080, 0.0079, 0.9999):61.1 deg
Cloud/Mesh 12 [I0.01.01 : I1.01.03]
Objective Function Value: 1.56711e-005 sq m
Iterations: 100
Overlap Point Count: 100169

Overlap Error Statistics
RMS: 0.00667676 m
AVG: 0.00397155 m
MIN: 6.2987e-009 m
MAX: 0.0489712 m
Overlap Center: (0.588, 0.385, 13.429) m
Error after global registration: 6.40598e-007 sq m
Translation: (-4.486, 0.368, 12.868) m
Rotation: (0.0013, -0.0071, -1.0000):178.4 deg
Cloud/Mesh 13 [I0.01.02 (Leveled) : I1.01.02]
Objective Function Value: 1.26522e-005 sq m
Iterations: 100
Overlap Point Count: 62313
Overlap Error Statistics
RMS: 0.00478632 m
AVG: 0.00323875 m
MIN: 2.16705e-007 m
MAX: 0.0484813 m
Overlap Center: (22.128, 3.075, 13.976) m
Error after global registration: 3.33406e-007 sq m
Translation: (22.269, 2.263, 13.156) m
Rotation: (0.0224, -0.0091, -0.9997):16.0 deg
Cloud/Mesh 14 [I0.01.02 (Leveled) : I0.01.03_2targets]
Objective Function Value: 1.05088e-005 sq m
Iterations: 100
Overlap Point Count: 102363
Overlap Error Statistics
RMS: 0.00542582 m
AVG: 0.00324998 m
MIN: 4.91482e-008 m
MAX: 0.0474888 m
Overlap Center: (25.503, 5.173, 6.257) m
Error after global registration: 3.49006e-007 sq m
Translation: (26.392, 5.323, 0.179) m
Rotation: (0.0000, -0.0005, 1.0000):119.7 deg
Cloud/Mesh 15 [E3.01.01 : I3.01.01]
Objective Function Value: 8.60084e-006 sq m
Iterations: 100
Overlap Point Count: 83581
Overlap Error Statistics
RMS: 0.00614268 m
AVG: 0.00317994 m
MIN: 5.31858e-008 m
MAX: 0.0482496 m
Overlap Center: (1.055, 1.624, -1.082) m
Error after global registration: 7.67621e-007 sq m
Translation: (0.732, 1.566, -0.744) m
Rotation: (0.0292, -0.0158, -0.9994):107.6 deg
Cloud/Mesh 16 [I3.01.01 : I2.01.03 (Leveled)]
Objective Function Value: 1.04962e-005 sq m
Iterations: 100
Overlap Point Count: 75159
Overlap Error Statistics
RMS: 0.00631777 m
AVG: 0.00343969 m
MIN: 4.43361e-008 m
MAX: 0.0492193 m
Overlap Center: (-0.321, 2.346, -1.472) m
Error after global registration: 3.3436e-007 sq m
Translation: (0.171, 1.597, -2.833) m
Rotation: (-0.0932, -0.0862, -0.9919):29.2 deg
Cloud/Mesh 17 [I1.02.02 : I1.02.03]
Objective Function Value: 6.72742e-006 sq m
Iterations: 100
Overlap Point Count: 332208
Overlap Error Statistics
RMS: 0.00470655 m
AVG: 0.00256213 m
MIN: 1.84408e-008 m
MAX: 0.0495453 m
Overlap Center: (-0.293, 0.258, 0.239) m
Error after global registration: 6.54884e-007 sq m
Translation: (-0.156, 0.724, -0.447) m
Rotation: (0.0258, -0.0623, -0.9977):-28.2 deg
Cloud/Mesh 18 [I1.02.02 : I1.01.01]
Objective Function Value: 1.04257e-005 sq m
Iterations: 100
Overlap Point Count: 114920
Overlap Error Statistics
RMS: 0.00783062 m
AVG: 0.00394954 m
MIN: 3.12829e-008 m
MAX: 0.0495298 m
Overlap Center: (0.388, 2.766, 1.690) m
Error after global registration: 6.96177e-007 sq m
Translation: (0.986, 3.612, 2.252) m
Rotation: (-0.0262, 0.1500, 0.9883):14.6 deg

Cloud/Mesh 19 [I1.02.03 : I1.01.01]
 Objective Function Value: 7.07968e-006 sq m
 Iterations: 100
 Overlap Point Count: 114784
 Overlap Error Statistics
 RMS: 0.00575179 m
 AVG: 0.00278831 m
 MIN: 5.19413e-009 m
 MAX: 0.0490805 m
 Overlap Center: (1.313, 1.034, 2.595) m
 Error after global registration: 1.50088e-007 sq m
 Translation: (2.279, 1.998, 2.783) m
 Rotation: (-0.0490, -0.0323, 0.9983):-13.6 deg

Cloud/Mesh 20 [E0.xx.02 : E1.xx.02]
 Objective Function Value: 1.17758e-005 sq m
 Iterations: 100
 Overlap Point Count: 585248
 Overlap Error Statistics
 RMS: 0.00638184 m
 AVG: 0.00350419 m
 MIN: 8.21183e-009 m
 MAX: 0.0498003 m
 Overlap Center: (-31.206, 17.101, 8.082) m
 Error after global registration: 1.6459e-006 sq m
 Translation: (-18.424, 45.413, 1.363) m
 Rotation: (-0.0002, 0.0006, -1.0000):141.6 deg

Cloud/Mesh 21 [I2.01.02 (Leveled) : I2.01.03 (Leveled)]
 Objective Function Value: 1.32917e-005 sq m
 Iterations: 100
 Overlap Point Count: 525195
 Overlap Error Statistics
 RMS: 0.00455831 m
 AVG: 0.00315762 m
 MIN: 8.77488e-009 m
 MAX: 0.0488955 m
 Overlap Center: (1.689, -0.308, 0.516) m
 Error after global registration: 1.40302e-007 sq m
 Translation: (3.247, -0.236, -0.006) m
 Rotation: (0.0002, 0.0001, -1.0000):114.0 deg

Cloud/Mesh 22 [I1.01.01 : I1.01.02]
 Objective Function Value: 1.15907e-005 sq m
 Iterations: 100
 Overlap Point Count: 508767
 Overlap Error Statistics
 RMS: 0.00662384 m
 AVG: 0.00352836 m
 MIN: 1.50763e-008 m
 MAX: 0.0494243 m
 Overlap Center: (-3.830, 2.350, 0.514) m
 Error after global registration: 8.30866e-007 sq m
 Translation: (-5.755, 5.546, 0.031) m
 Rotation: (0.0031, 0.0029, 1.0000):107.5 deg

Cloud/Mesh 23 [I1.01.01 : I1.01.03]
 Objective Function Value: 9.95156e-006 sq m
 Iterations: 100
 Overlap Point Count: 490476
 Overlap Error Statistics
 RMS: 0.00497482 m
 AVG: 0.00300474 m
 MIN: 7.42765e-009 m
 MAX: 0.0496607 m
 Overlap Center: (-4.316, -0.229, 0.569) m
 Error after global registration: 6.63428e-007 sq m
 Translation: (-7.476, -2.094, 0.028) m
 Rotation: (-0.0003, 0.0005, -1.0000):132.0 deg

Cloud/Mesh 24 [I1.01.02 : I1.01.03]
 Objective Function Value: 1.26766e-005 sq m
 Iterations: 100
 Overlap Point Count: 583513
 Overlap Error Statistics
 RMS: 0.00694895 m
 AVG: 0.00379428 m
 MIN: 1.45608e-009 m
 MAX: 0.0495621 m
 Overlap Center: (-3.695, 1.129, 0.584) m
 Error after global registration: 9.15478e-007 sq m
 Translation: (-6.769, 3.939, -0.021) m
 Rotation: (0.0016, -0.0032, -1.0000):-120.5 deg

ScanWorld Transformations

E0.01.01 (Leveled)
 translation: (39.443, 6.422, 0.494) m
 rotation: (-0.0001, 0.0000, -1.0000):98.1 deg

E0.01.02 (Leveled)
 translation: (32.864, -15.776, 0.392) m
 rotation: (0.0000, 0.0000, -1.0000):-130.9 deg

E1.01.01 (Leveled)
translation: (39.286, 22.027, 6.410) m
rotation: (-0.0004, 0.0003, -1.0000):8.8 deg

E3.01.01
translation: (19.692, 2.762, 20.513) m
rotation: (-0.0065, 0.0010, -1.0000):-106.9 deg

E1.xx.01_target_scan
translation: (31.961, 22.138, 5.701) m
rotation: (-0.0016, -0.0008, -1.0000):132.3 deg

E0.xx.02
translation: (-36.395, 20.994, -5.063) m
rotation: (-0.0002, 0.0004, -1.0000):-170.9 deg

E1.xx.02
translation: (-25.371, -26.756, -3.741) m
rotation: (-0.0007, -0.0005, 1.0000):29.4 deg

I0.01.01
translation: (17.671, 3.539, 0.266) m
rotation: (0.0108, -0.0059, -0.9999):77.1 deg

I3.01.01
translation: (17.976, 3.013, 19.783) m
rotation: (0.8755, 0.4627, -0.1393):3.7 deg

I2.01.02 (Leveled)
translation: (17.531, 1.556, 17.049) m
rotation: (-0.0003, 0.0000, 1.0000):84.5 deg

I2.01.03 (Leveled)
translation: (18.079, 4.766, 17.041) m
rotation: (-0.0006, -0.0009, -1.0000):29.5 deg

I0.01.02 (Leveled)
translation: (0.000, 0.000, 0.000) m
rotation: (0.0000, 1.0000, 0.0000):0.0 deg

I1.02.02
translation: (12.735, 3.792, 10.795) m
rotation: (-0.0168, -0.0130, -0.9998):138.0 deg

I1.02.03
translation: (13.326, 3.344, 10.351) m
rotation: (-0.0075, 0.0040, -1.0000):109.9 deg

I1.01.01
translation: (14.469, 0.525, 13.124) m
rotation: (-0.0001, 0.0001, -1.0000):123.5 deg

I1.01.02
translation: (22.270, 2.262, 13.154) m
rotation: (0.0234, -0.0085, -0.9997):16.0 deg

I1.01.03
translation: (16.849, 7.916, 13.152) m
rotation: (0.0003, 0.0006, -1.0000):-104.5 deg

I0.01.03_2targets
translation: (26.394, 5.323, 0.180) m
rotation: (0.0000, 0.0006, -1.0000):-119.6 deg

Unused Controlspace Objects

E0.01.01 (Leveled):
vertex : unlabeled
vertex : unlabeled

E0.01.02 (Leveled):
vertex : unlabeled
vertex : unlabeled
vertex : unlabeled

E1.xx.02:
vertex : unlabeled
vertex : unlabeled

I3.01.01:
vertex : unlabeled
vertex : unlabeled

I2.01.02 (Leveled):
vertex : unlabeled

I1.01.02:

Vertex : unlabeled
Vertex : unlabeled

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