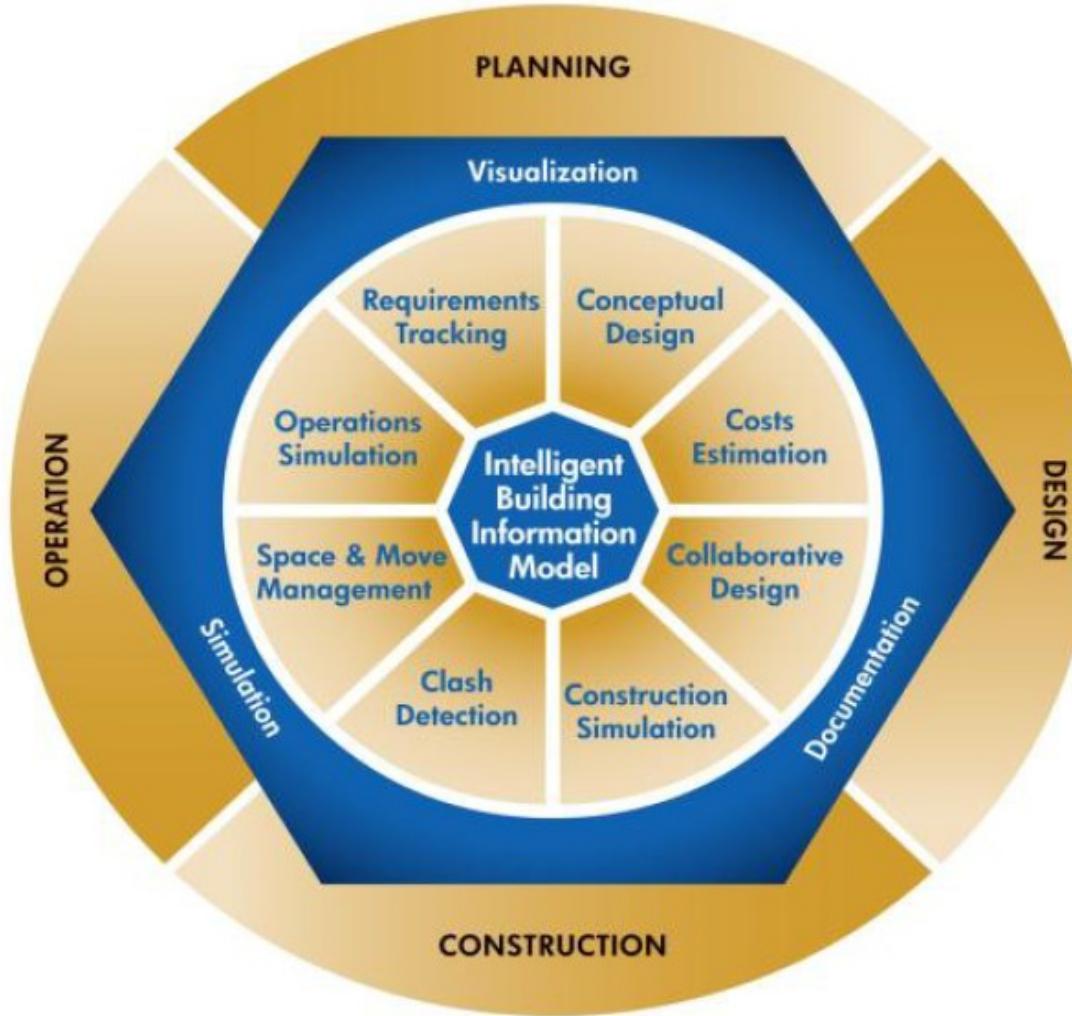


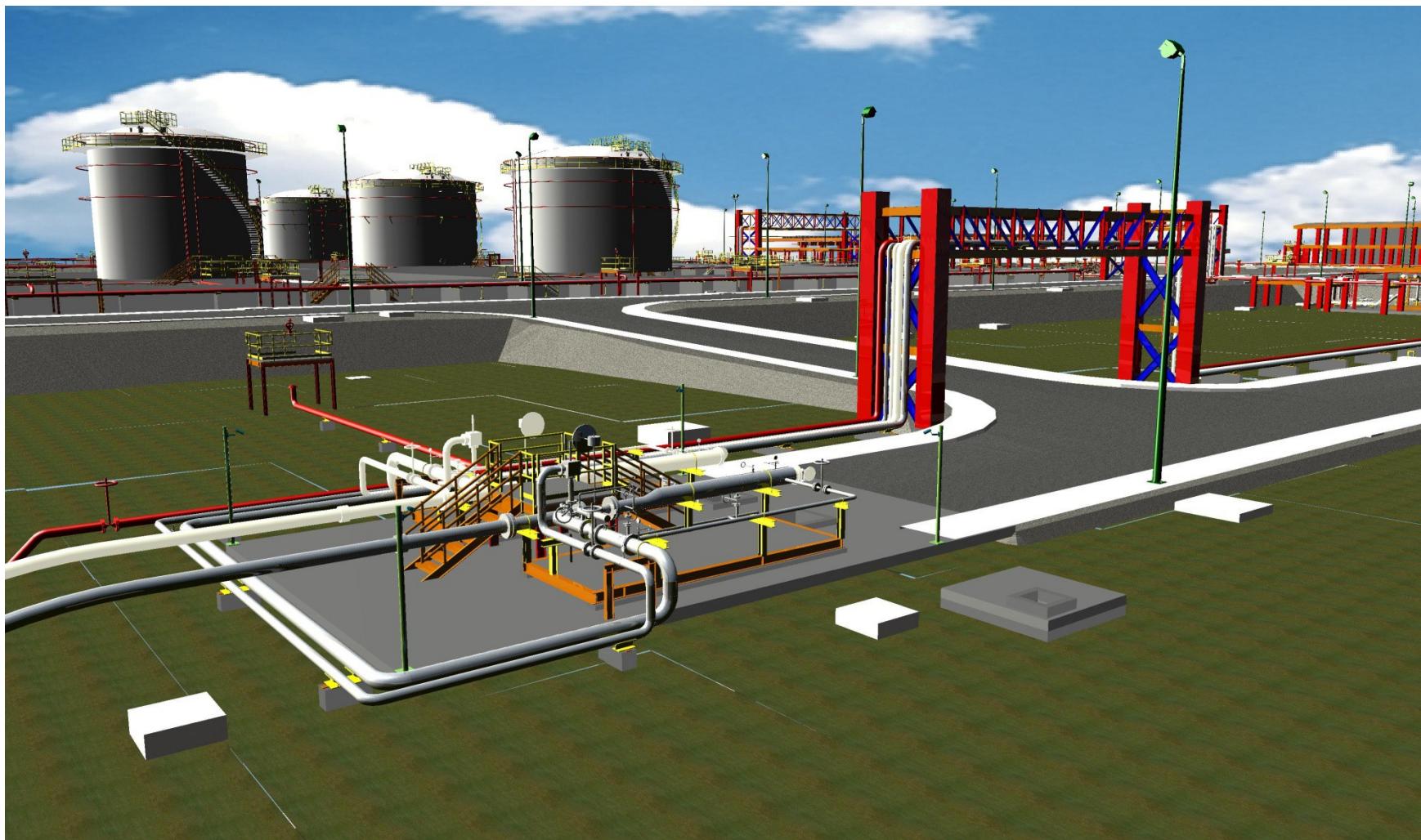
# Tecnologie geomatiche, Plant Design & Management, Sicurezza

Andrea Fiduccia (Intergraph Italia LLC)



***“BIM is an integrated workflow built on coordinated, reliable information about a project from design through construction and into operations”***







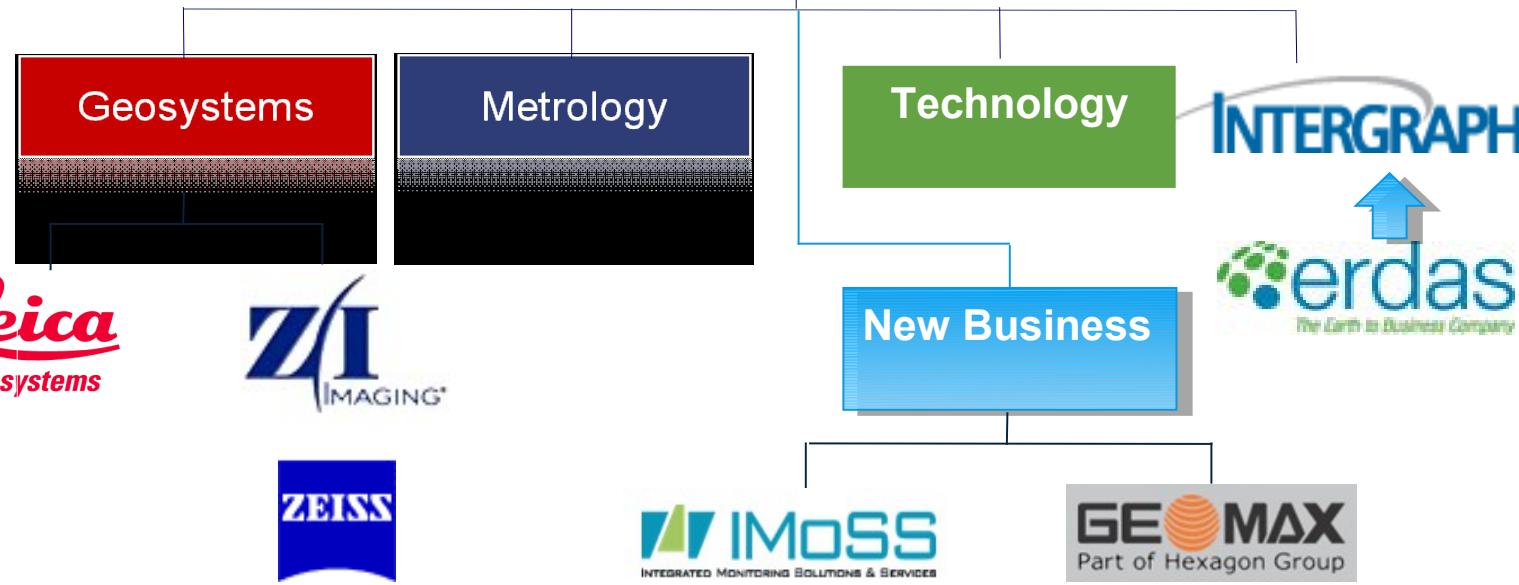




**HEXAGON**



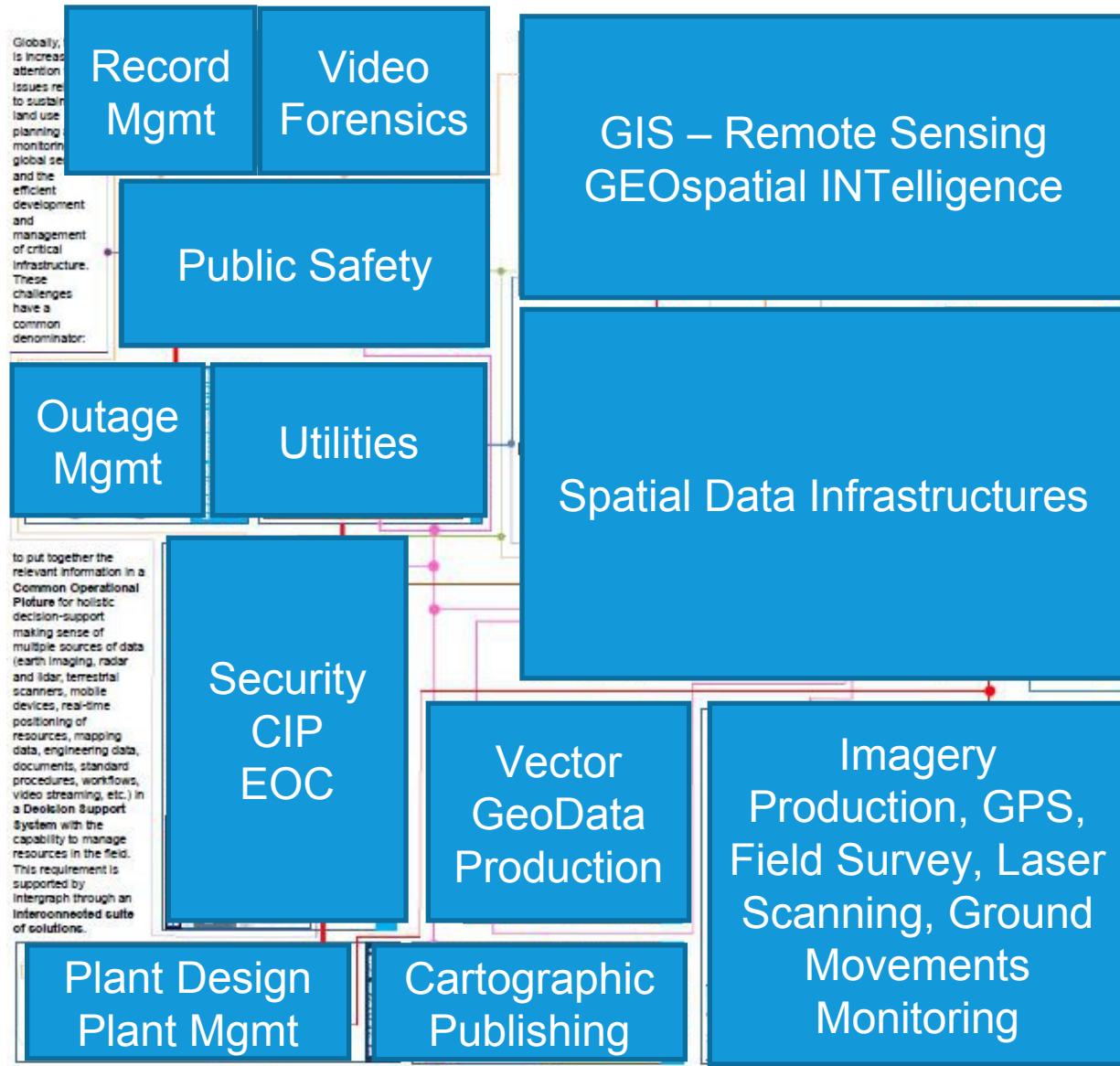
precision in everything



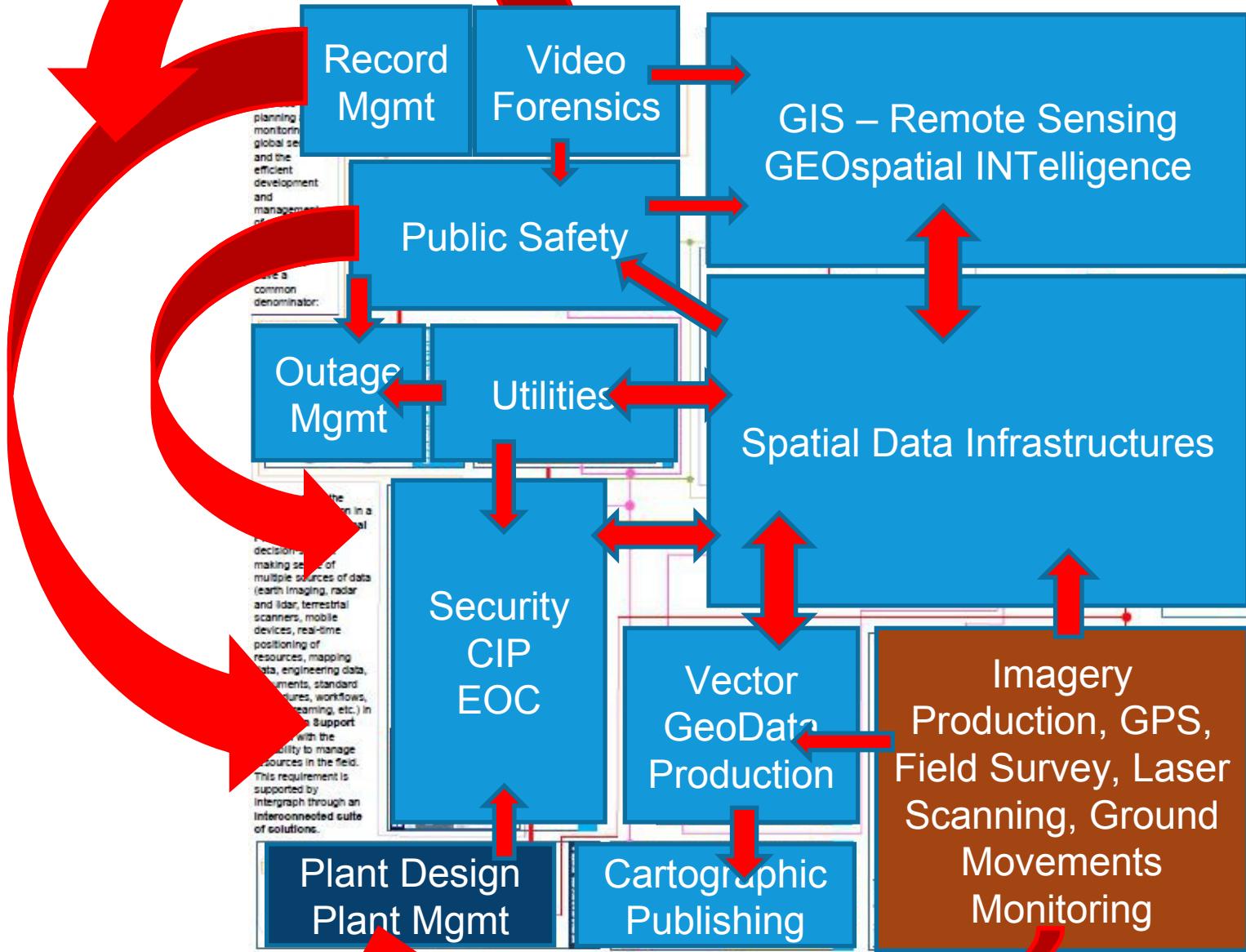
Geomatica a 360° Hexagon



For over 40 years Intergraph's industry-standard technology solutions have produced innovative and integrated management of the entire life cycle of geographic information. These technologies are a world class in terms of efficiency and reliability. In fact, for example, one person in twelve worldwide is "protected" by Intergraph Public Safety & Security Systems.



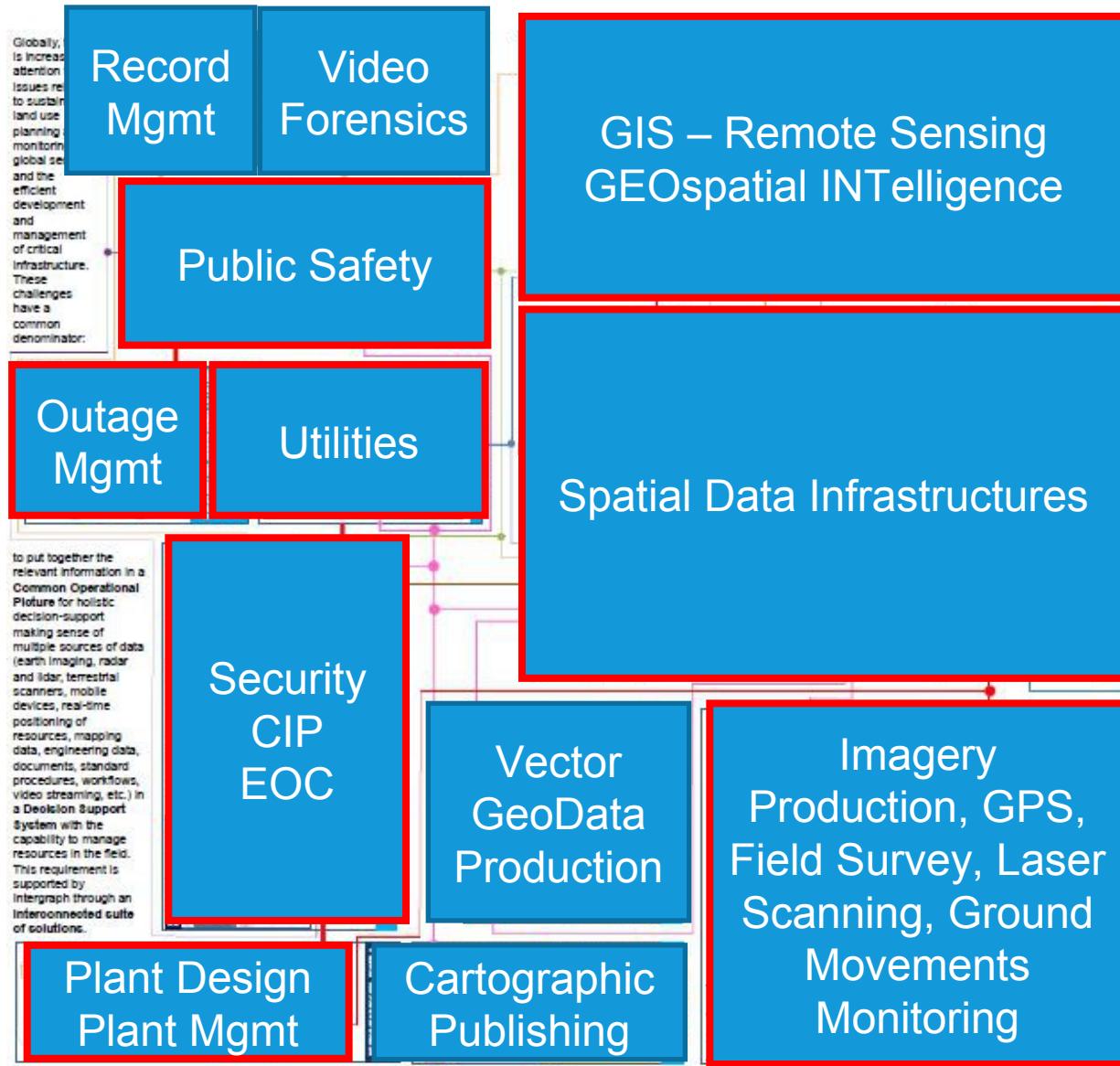
For over 40 years Intergraph's industry-standard technology solutions have produced innovative and integrated management of the entire life cycle of geographic information. These technologies are a world class in terms of efficiency and reliability. In fact, for example, one person in twelve worldwide is "protected" by Intergraph Public Safety & Security Systems.



 Intergraph SG&I


 Intergraph PP&M


- **Intergraph SG&I**
- **Z/I**
- **Leica Geosystems**

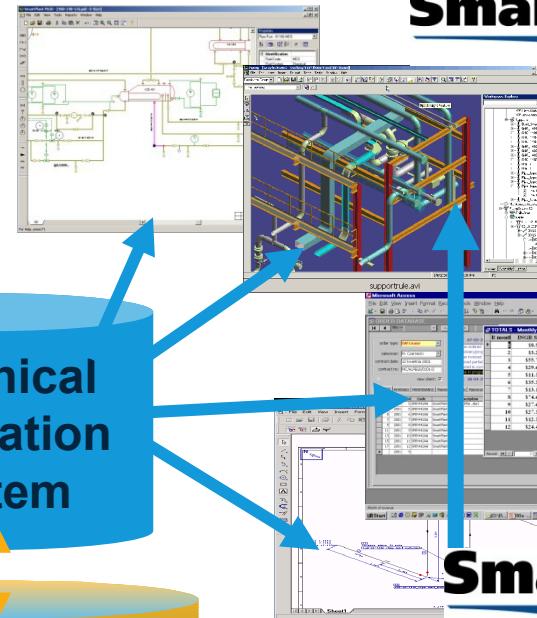
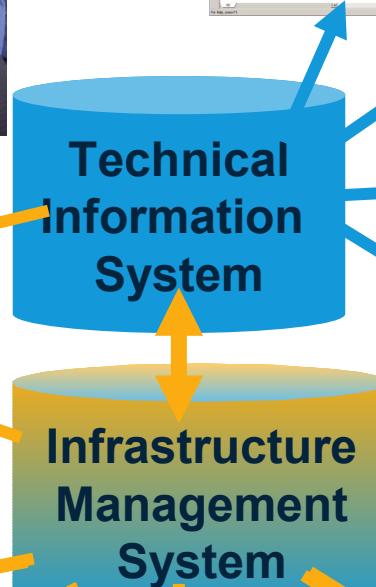


**Ambiti interessati dal «BIM 4 Plants»**

## II «Modello Intergraph»

INTERGRAPH®

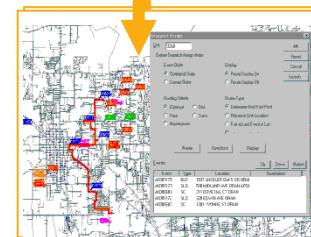
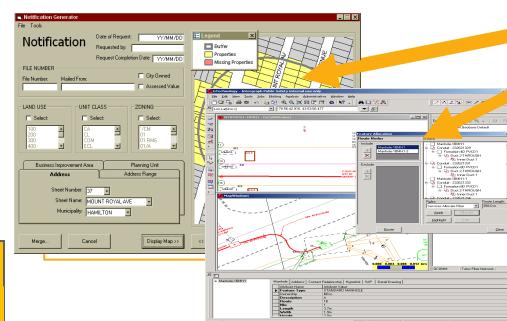
### Intergraph I/CAD (Computer-Aided Dispatch) I/Security Framework



SmartPlant®  
3D



SmartPlant®  
Foundation



G!NIUS

G/Technology

# SmartPlant® Enterprise for Owner Operators

INTERGRAPH®

SmartPlant Enterprise for Owner Operators - SAP NetWeaver Portal - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites Bookmarks Check Autolink Send to

Address: http://doneweaver.intergraph.com/irj/portal

Google SAP Go Links Settings

Welcome Mr. Demo

Home Engineering Reliability Review Change Management

SmartPlant Enterprise for Owner Operators

SmartPlant Enterprise for Owner Operators

Information Viewer

Search

Name Description

#P-4543Reflex Pump A

#P-4544Reflex Pump B

#P-4877COOLING WATER CT-1 (FAR NO)

#P-5701MAIN COL. BTMS (N)

#P-5707HCO CRC (N)

Page 1 of 3

Formation

Type

Site Plant - Grid: 3D Model

and Maintenance-1-00013D Model

every Stage 1 3D Model

01-U02-001 2D Model

00000 Field Change Request

Page 1 of 2

3D Links

Failure Analysis

Centred Maintenance

Reliability

Change Request

Failure History

ID Description Mode Part Cost Downtime FailureDate

EID0000000517SEAL LEAK ON PUMP External Leakage Process Medium/Casing 20506.972 10/5/1994 12:00:00 AM

EID0000000520REPLACE SEAL External Leakage Process Medium/Seals 14050.851 8/1/1992 12:00:00 AM

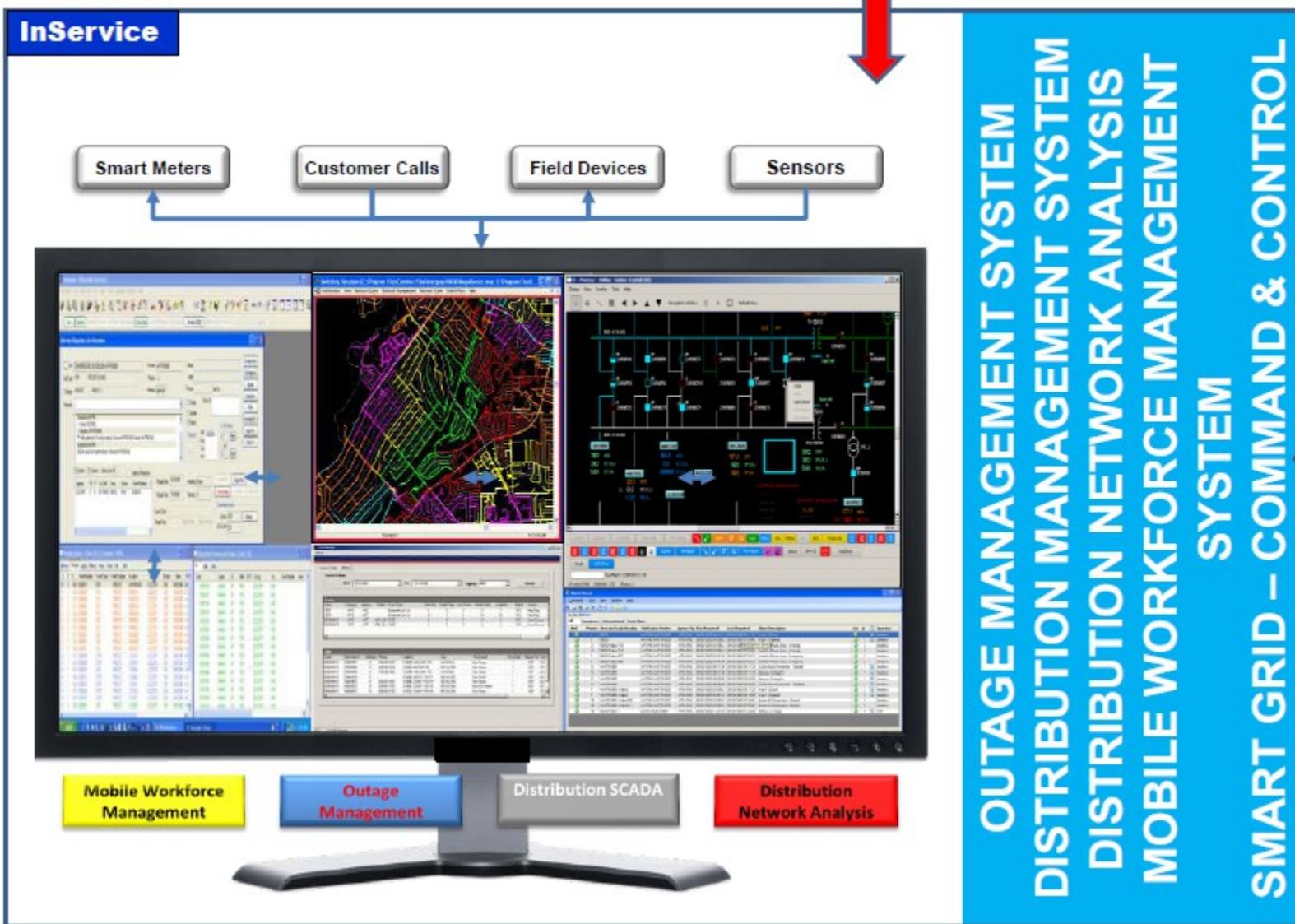
EID0000000522SEAL LEAKING IN PUMP External Leakage Process Medium/Seals 53384.534 2/7/1993 12:00:00 AM

EID0000000523REPLACE SEAL External Leakage Process Medium/Dearing(s) 15061.751 1/8/1994 12:00:00 AM

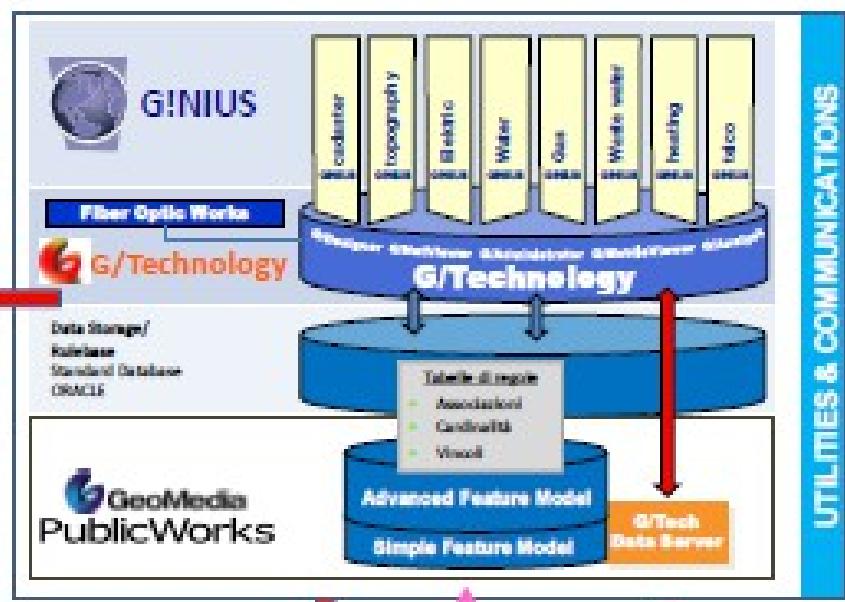
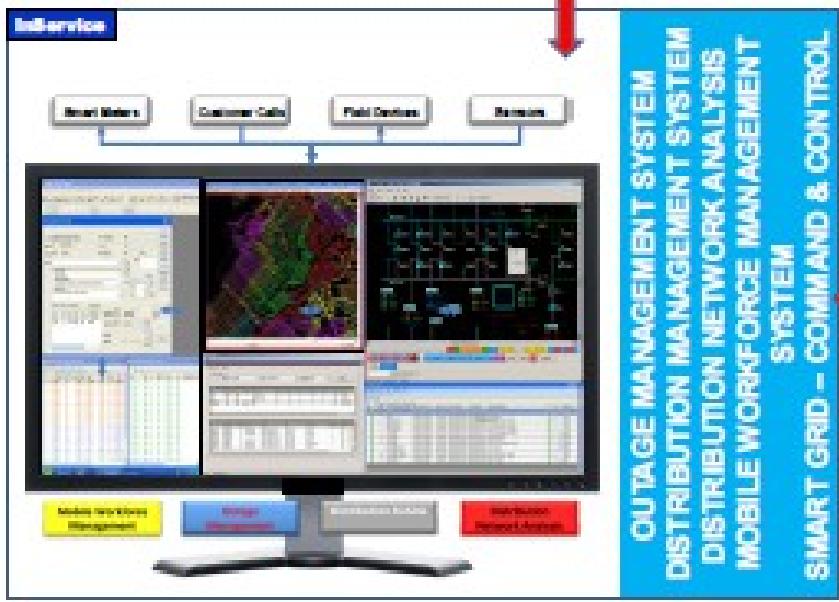
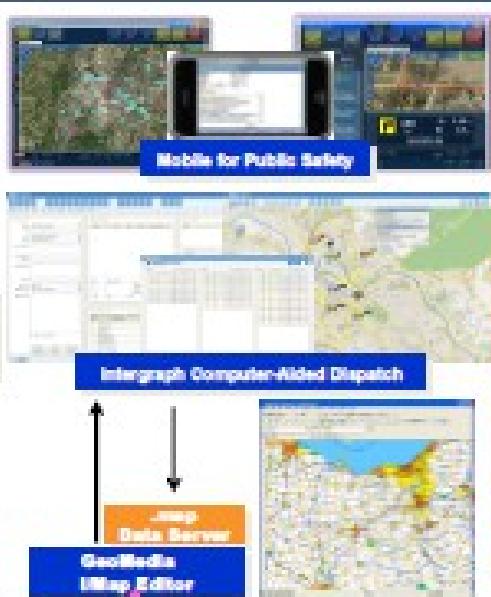
EID0000000523REPLACE SEAL External Leakage Process Medium/Seals 15061.751 1/8/1994 12:00:00 AM

Correlated Data

Correlated Properties	
Name	Value
Reliability	
MTBF	289.809 h
Criticality	Low
Maintenance Cost	54717.85
Loss Of Production Cost	154153.55
Medium Identifier	MER0006
SAP	
Functional Location	FL0000001 m
Hazardous Service	Yes, due to Liquid
Seal Manufacturers Code	QBS05
Engineering	
Name:	PMP-4543
Description:	Reflex Pump A.
Pump Suction Pressure Maximum:	20.4 bar
Power At Estimated Efficiency:	35.5 kW
Head In Discharge Vessel:	355.4 m
Estimated Efficiency	60 % m
Ambient Temperature Minimum:	6.7 m
NFFA:	
Ambient Temperature Minimum:	77.8 m kg
Seal Type:	Tandem m
Driver Type:	Electric Motor
Mounting:	Centreline
Pumping Temperature Normal:	48 C
Total Suction Head Maximum:	452.9 m
Viscosity At Pumping Temperature:	0.05cP
Pump Suction Pressure Rated:	15.9 bar m
Ambient Temperature Minimum:	Direct
Volume:	Single Volume

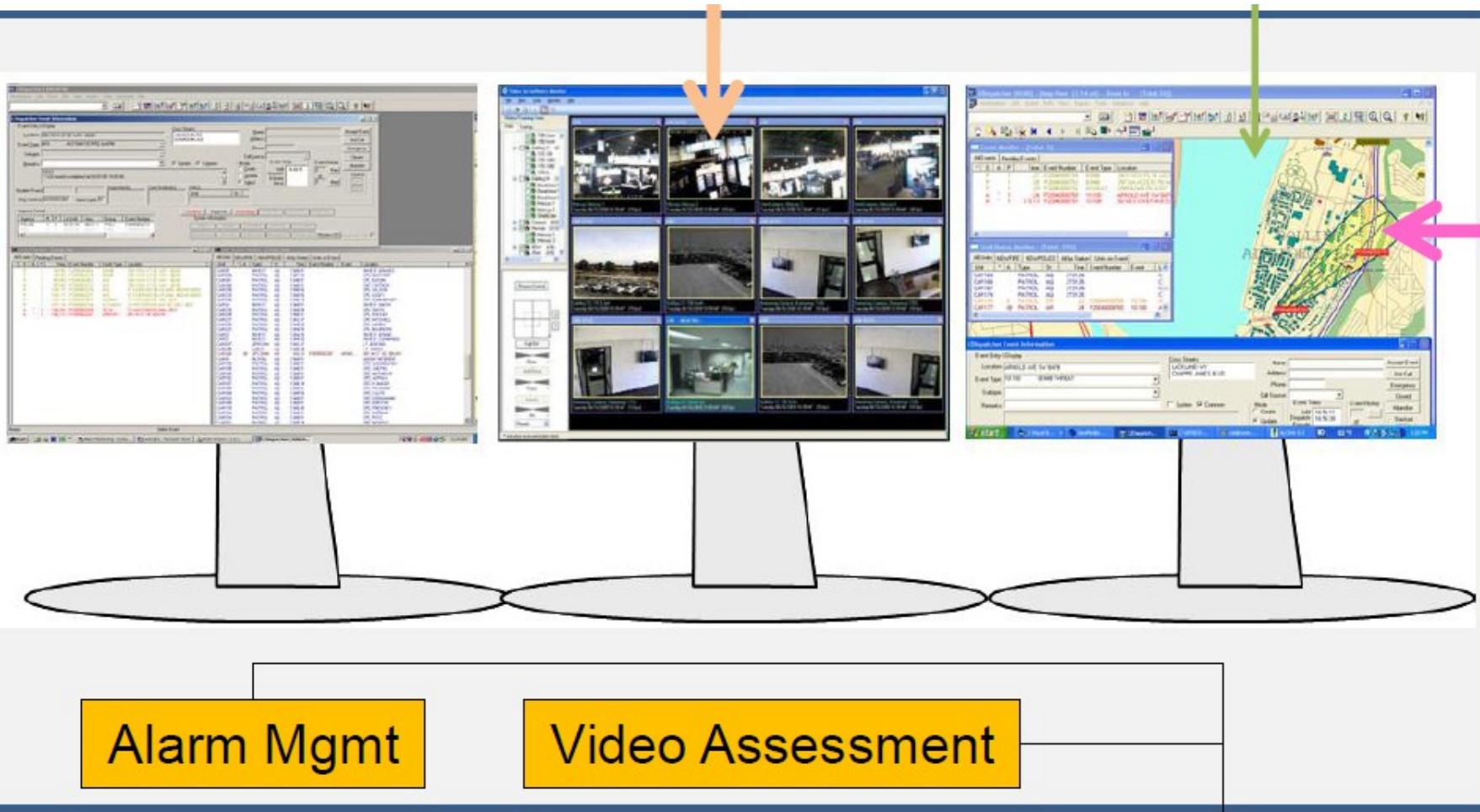


**PUBLIC SAFETY - SALE OPERATIVE PER  
LA GESTIONE DELLE EMERGENZE**



**UTILITIES & COMMUNICATIONS**

## I/Security Framework



# Sicurezza: Controllo Territoriale mediante Motion Video Exploitation



Lo streaming video può essere visualizzato contemporaneamente in un ambiente di video analisi e in un software GIS con funzionalità specifiche per la GEOINT.

The screenshot displays two windows from the GeoMedia Professional software:

- Left Window (Video Player):** Shows a satellite view of an industrial or agricultural area with several large buildings and fields. A green rectangular box highlights this view. Below it is a timeline slider with a red vertical marker. At the bottom are controls for "Show annotations" and "Show clip marks".
- Right Window (Map View):** Shows a detailed satellite map of a town with street names like "Waterloo Colours Rd", "Burton", "Parlour", "Salisbury North", "Salisbury Downs", "Bolton", "Circles Dandy Park", "Common Fields", "Worthington", "Lakes", and "Ingle". A green arrow points from the highlighted video area to the map. A blue polygon is drawn over a specific area on the map. A blue line with an arrowhead points from the bottom left of the map towards the video player window.

**Data Table (Visible in the Video Player Window):**

Data Name	Value
Video URL	D:\Warehouses\...
KLV URL	D:\Warehouses\...
Mission ID	100
Vehicle ID	
Latitude	-34.8270622672...
Longitude	138.5649592852...
Altitude	3234.331583658...
Roll	23.48102561021...
Pitch	23.57480738713...
Yaw	18.90064450505...
Classification	
Time Stamp	27318600
GC 1 Lon	138.6462549375...
GC 1 Lat	-34.7745523225...

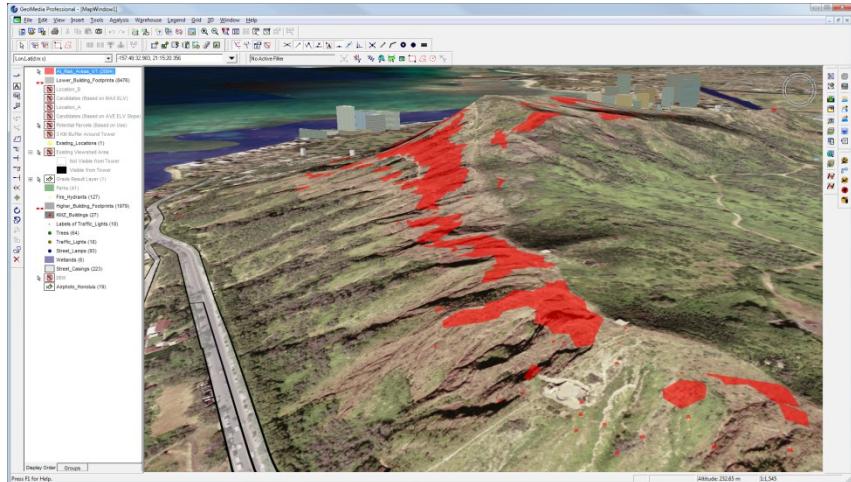


## I/CROP (come client di TerraGate)

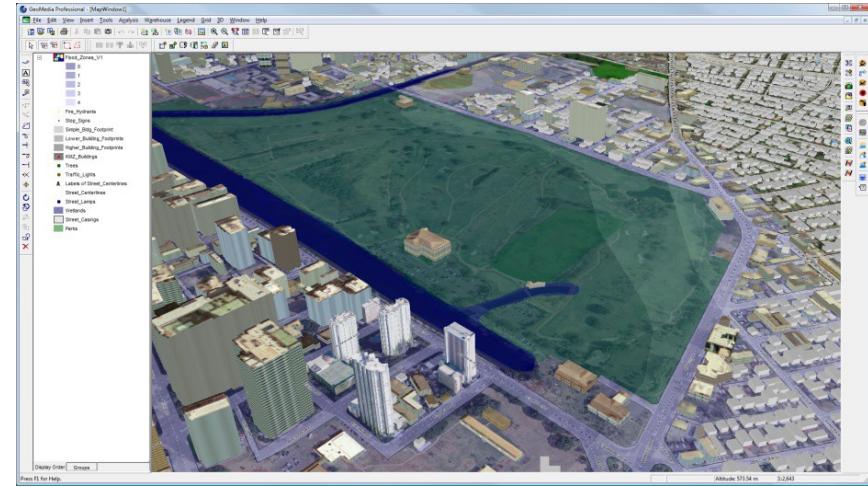
INSPIRE (2007/2/EC)

OGC

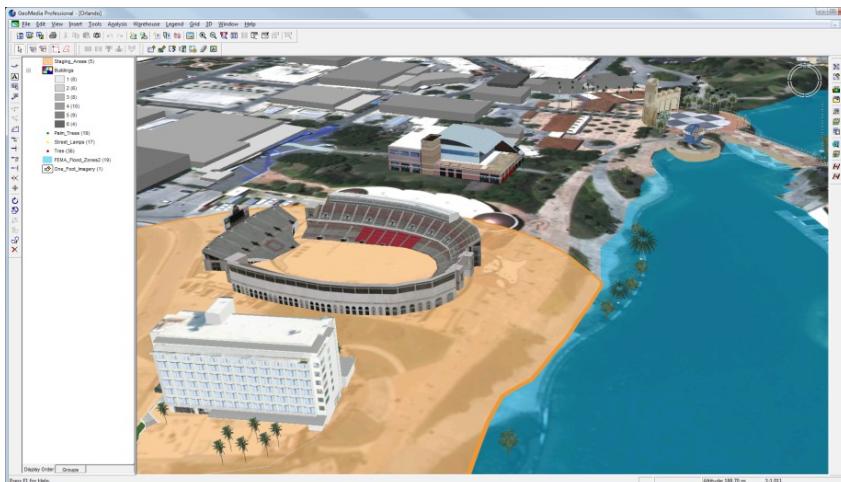
Le tecnologie SDI sono lo strumento base per il coordinamento tra i soggetti istituzionali e i gestori dell'impianto nella gestione dell'emergenza



Potential Slide Areas



Historical Flood Zones



Potential Water Extents

# Le tecnologie per il rilievo



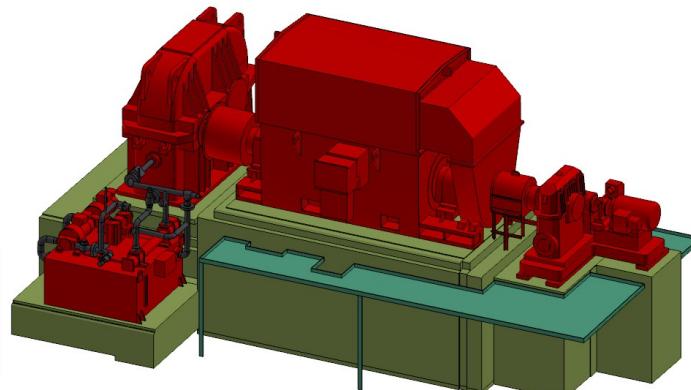
3D Scan



Convert to TruView  
Portal Format, Overlay  
3D photos

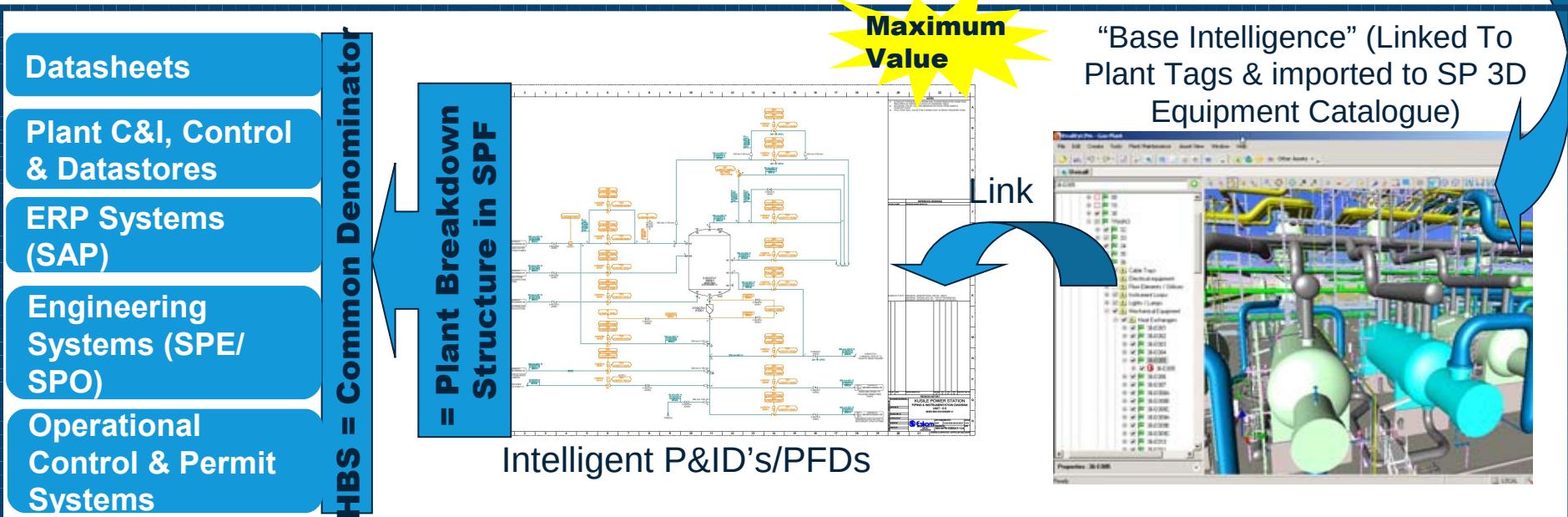
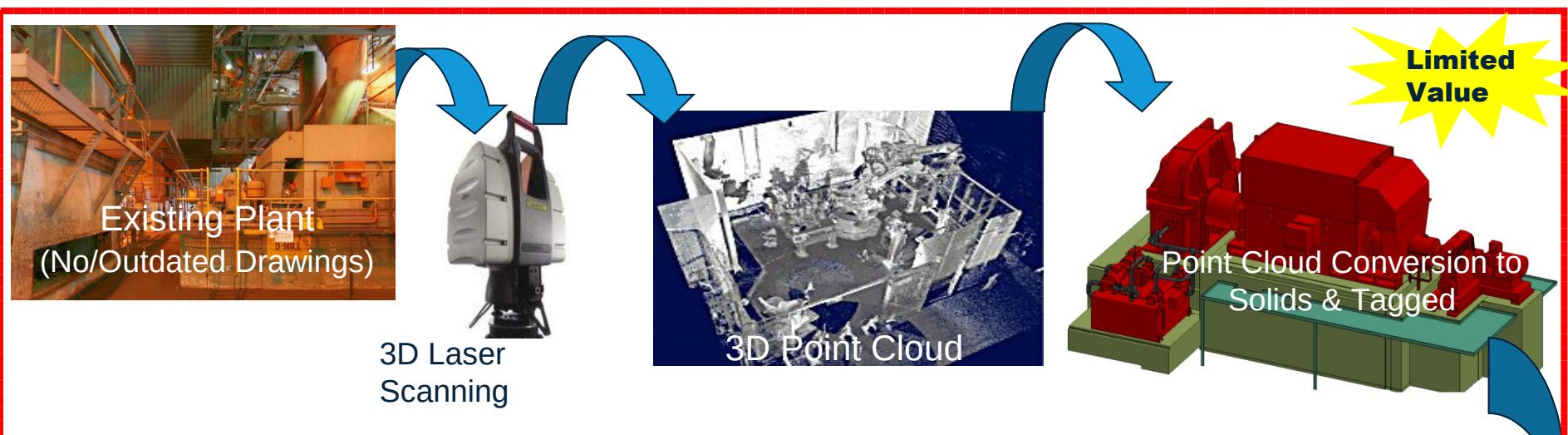


Component re-created  
for use in SP 3D, FEA  
or CFD Software



Output to 3D Solid  
Format

# A Base Methodology to Maximise 3D Laser Pointcloud Scan value



# Utilising the 3D Laser scanning outputs and efforts in SP 3D to recreate the Design Base



- when it has to be **right**



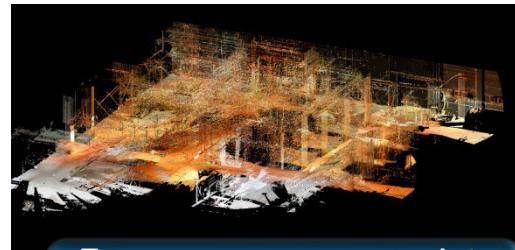
Original Plant



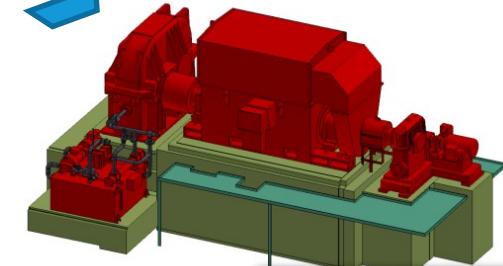
**Leica**  
Geosystems



3D  
Scanning

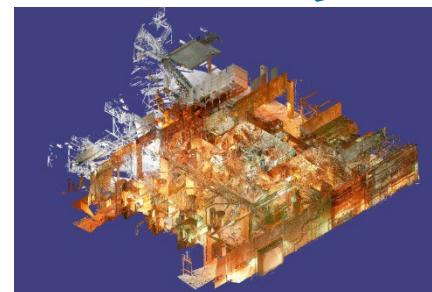


Process scan area point-cloud scan via Cloudworx for SP 3D use

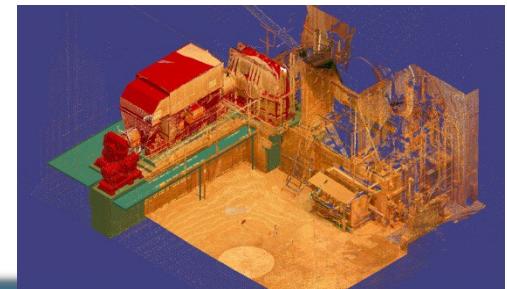


Conversion to a useable Solid3D Model object

Model in SP 3D (Changes/Baseline)

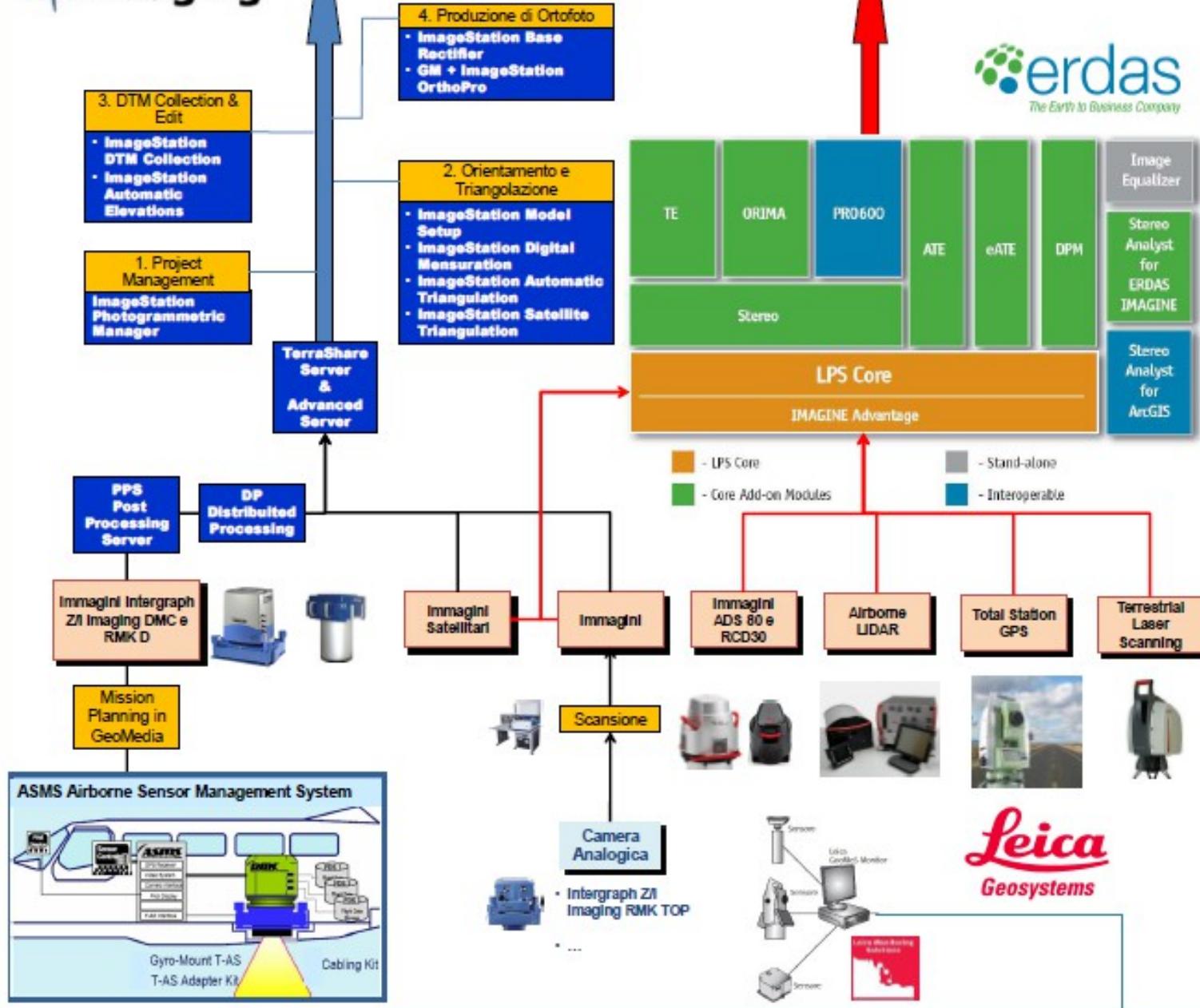


Import as 3D Model Reference in SP 3D



**SmartPlant**  
3D

**ZI Imaging**

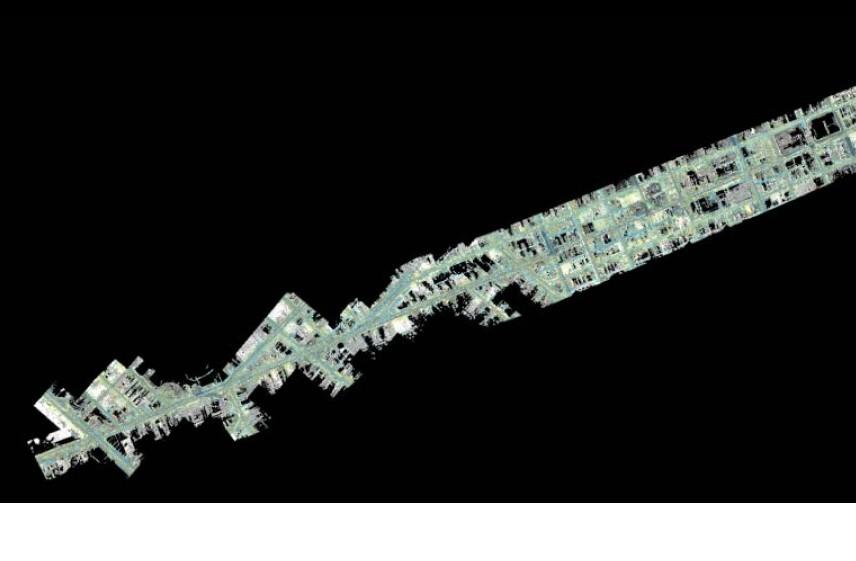


CAMERE DIGITALI FOTOGRAFICHE, STRUMENTI AVIOTRASPORTATI E DA CAMPO PER IL RILIEVO ED IL MONITORAGGIO - SOFTWARE PER IL PROCESSAMENTO DEI DATI



# City of Las Vegas Main Street 3D Infrastructure Reality Capturing Project©

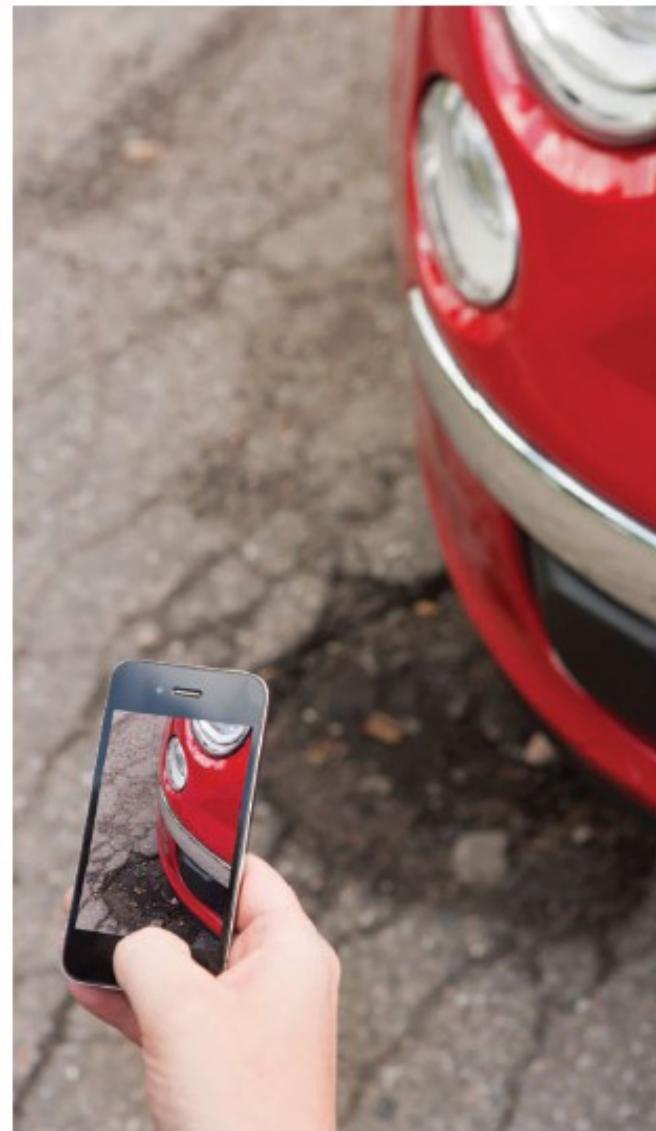




# Le nuove applicazioni «mobile»



**Intergraph® Mobile MapWorks**



CLOUD-BASED CITIZEN CROWDSOURCING WITH MOBILE ALERT

# Questions?

**SMARTER** DECISIONS