LTE World Summit 2013

Amsterdam, 24-26 Jun

Assembly Data System S.p.A.

The Company

About us

A.D.S. Assembly Data System S.p.A. is an italian prime System Integrator company operating within Telco, IT, Energy and Civil engineering sectors.

Founded in 1987, ADS evolved continuously by investing in research & innovation.

Particular focus has been paid about relationship with Universities, Business Schools and IT Academies.

Today ADS is a competent, flexible and market fitting company counting about 600 payrolls.

Operations are managed mainly in Italy but also secured in several mediterranean countries and South America.

The Company

Locations

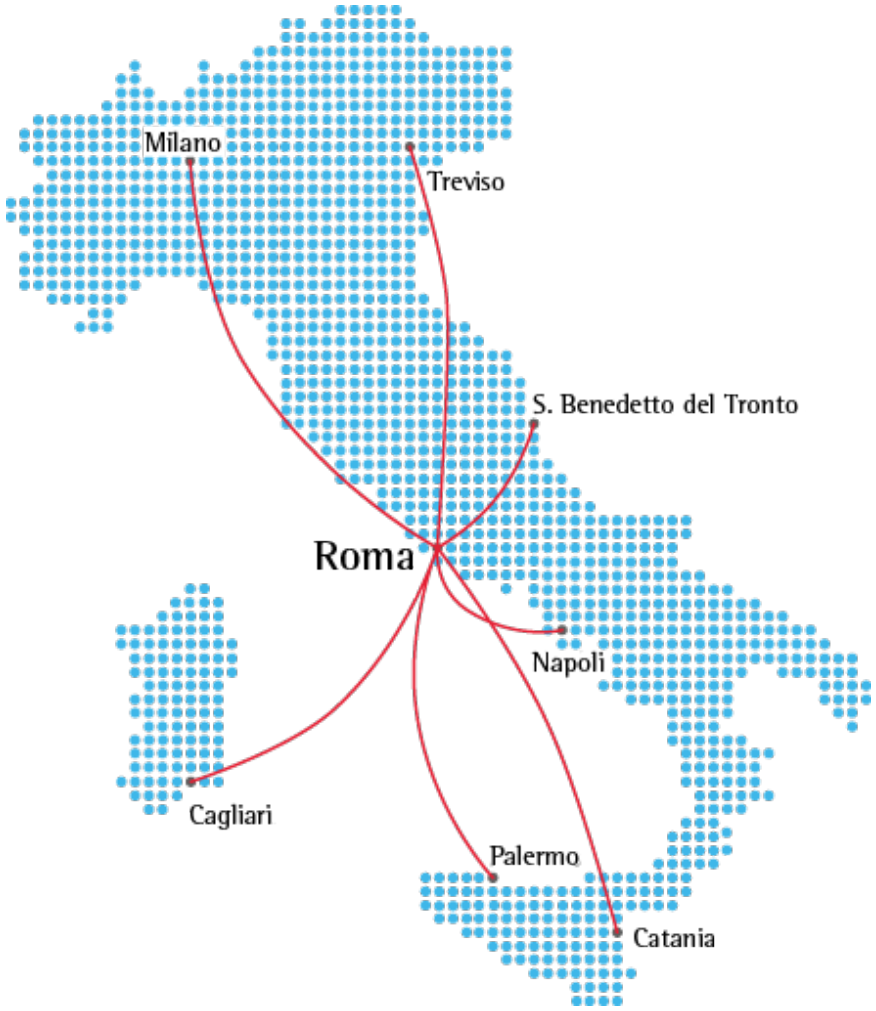
ADS headquarter is in Pomezia (Roma).

Other premises are:

- Milano
- Treviso
- S. Benedetto del Tronto
- Napoli
- Palermo
- Catania
- Cagliari

ADS abroad operational locations are in Colombia & Algeria.

ADS also secured services in countries such as Israel, Lybia, Morocco, Spain, Greece and Malta.



The Company

Business Unit

SERVICES & SOLUTIONS

- Telecom management platforms design, integration, roll-out & support
- Telecom O&M services (h24 monitoring, provisioning and configuration)
- Network design, planning & management (transport, access, wired and wireless network, IP)
- Testing and validation of fixed and mobile products
- Managed Services (Data Center, Network and System Management, Control Room, IT Security Services)
- Mobile Enabled Solutions

NETWORK IMPLEMENTATION

- Deployment of network physical infrastructure (Site survey, site design, I&C, etc)
- Field operations support

FACILITY MANAGEMENT

- Building systems design (civil and industrial area)
- Design and deliver of electrical, photovoltaic, mechanical, air-conditioning systems
- Design, deliver and maintenance of Integrated Security Systems (Intrusion detection, Video Surveillance, Fire Detection, Access Control)

The Company

Certifications

- **Certification: UNI EN ISO 9001:2008 with the extension to EA31B and EA33;**
- **Environment Certification: UNI EN ISO 14001:2004**
- **SOA QUALIFICATION:**
  a. **OG 1 CLASS. I V°**
  b. **OG 11 CLASS. IV°**
  c. **OS 30 CLASS. I°**
  d. **OS 19 CLASS. IV°**
  e. **OS 5 CLASS. II°**
  f. **Design Certification category. VIII (without limits)**
- **Authorization DM37/ 0 8 (ex 46/90) Lettera A, B, C, D, E, F e G**
- **1st degree License - The Ministry of Economic Development (authorization for installation, test, connection and maintenance of telephony and telecommunication systems (art. 5 dell'alleg.13 al D.M. 23.5.1992 nr. 314)**
- **Security Clearance**

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Solutions Portfolio

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Mobile Enabled Solutions
NET KPI DASHBOARD

Mobile Enabled Solutions
MOBILE ASSISTANT

Mobile Enabled Solutions
TEST AUTOM. SUITE

IP Solution
10Gb/s TRAFFIC GENER.

Solutions Portfolio

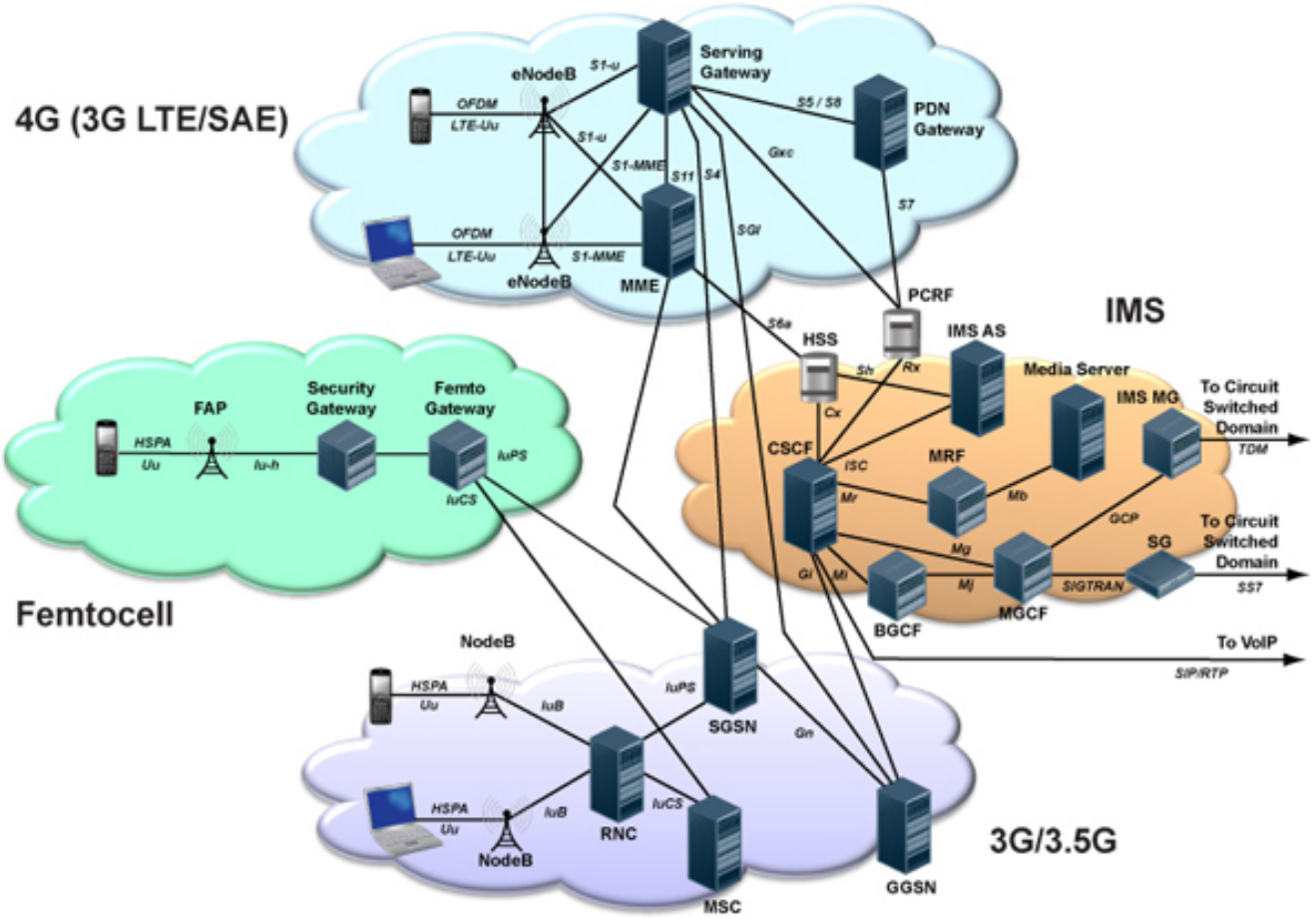
Introduction

Owning a long experience in the Telco market, ADS Assembly Data System is able to offer to the Customers an End-to-End Service concerning the Network Implementation projects and the Network Maintenance & Support activities.

This ability is achieved thanks to the deep knowledge of the implementation process, a customer oriented mindset and a widespread competence of the network technologies.

Solutions Portfolio

Competence Areas



Solutions Portfolio

Network Services

Network Capabilities

ADS developed niche competences in Core, Transport & Radio Networks for 2G/3G technologies and even in Evolved Packet Core (4G LTE).

Here follows a detailed list of the covered network elements:

- Radio: BSC, RNC, BTS, node-B, e-nodeB;
- Core Network PS: SGSN, GGSN, MME, PGW, DNS;
- Core Network CS: MGW, MSC, HLR;
- IMS Network: MTAS, AS, CSCF, HSS, SLF, DNS, MRFC, SBG;
- OSS/BSS: SCP, Online Charging System, Billing System, Provisioning;
- ICT: Networking, CPE Fixed and Mobile, VoIP.

Network Assets

ADS is an End-to-End Service Company being able to cover the full network implementation process life-cycle.

In details ADS secures the following activities:

- Network Solution Proposition
- Network Planning & Design
- Site Preparation & Installation
- Network Start-up, System Integration
- Verification and Testing
- Monitoring & Troubleshooting
- Quality and Performance Service

Solutions Portfolio

Network Services

Network Solution Proposition

ADS can provide a team of senior specialists able to built a proposition for a network solution, in terms of Pre-study and Architectures, accounting either the integration of a New Node in an existing network or a Start-up network.

Network Planning & Design

ADS manages and supplies Addressing Plan, High Level Design (concerning the network solution, the network impact, the feature activation and the requirement) and Low Level Design (describing each network element involved in the solution with detailed configuration data).

Site Preparation / Installation

As proof of an E2E service, following the site survey ADS performs everything concerning the site preparation (cabling, HW installation, energy), helping to get permits and authorisation from the local PA as well.

Network Start-up, System Integration

ADS performs installation, configuration and integration of every node in the network:

- Backbone Elements (Router, Switch, Catalyst)
- Core Network Nodes (CS e PS)
- Transport and Radio Equipments (2G, 3G, 4G)
- IMS Nodes

Solutions Portfolio

Network Services

Verification and Testing

ADS is able to run and verify all kind of test activities, both in labs (acceptance) and in live networks (rollout):

- Mobility & Session Management;
- Performance Management;
- Fault/Alarm Management;
- O&M.

Monitoring & Troubleshooting

ADS is able to hosting NOC and SOC within own premises, meanwhile can also provide network support at the customer sites.

Our specialist's team ensure troubleshooting on the whole network area and trouble ticket management.

Quality and Performance Service

ADS can offer a Quality & Performance service based on the following activities:

- Post-Analysis & KPI;
- Optimization;
- Field Governance.

ADS runs a post analysis on the network performance, analysing and reporting the network trends and KPIs.

A real time snapshot of the network status or a single network element performance is secured by daily/weekly reports provided by ADS tools.

The right sinergy between field maintenance people and troubleshooting skills leads to an effective network optimization.

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Mobile Enabled Solutions

Assembly Data System S.p.A.

Network KPI Dashboard

Features & Benefits

FEATURES

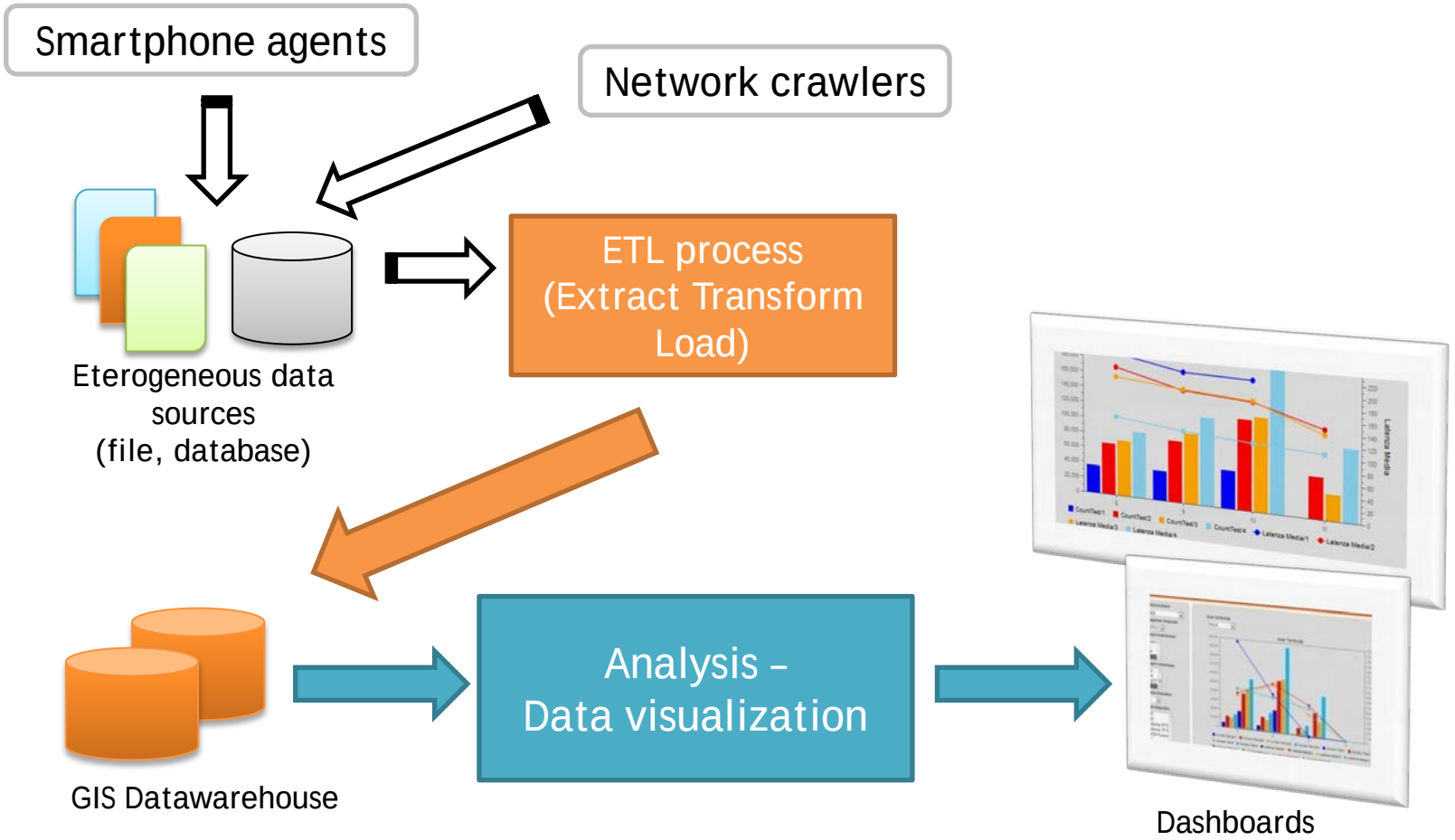
- Interactive dashboards for data visualization
- Optimized for network performance analysis
  - Radio Layer
  - Transport Layer
  - Application Layer
- Targeted for Mobile Network Operator
- Support for Geo data analysis
  - Map visualization
  - Data Binning
- Access Control
  - Data partitioning for different users and roles
  - Custom views for different roles
- Report generation in various formats
  - Excel, pdf, HTML

BENEFITS

- Openess – Interoperability
  - Support Big Data (Hadoop, PaloDB, MongoDB)
  - Accessible from web and mobile
  - Integration with Troubleticketing systems
- Ease of use
  - Web based
- Rapid deployment
  - No need for service interruption
  - Zero side-effect on Operation Systems

Network KPI Dashboard

Data Flow



Network KPI Dashboard

Application & Radio and Transport Layer

Application Layer

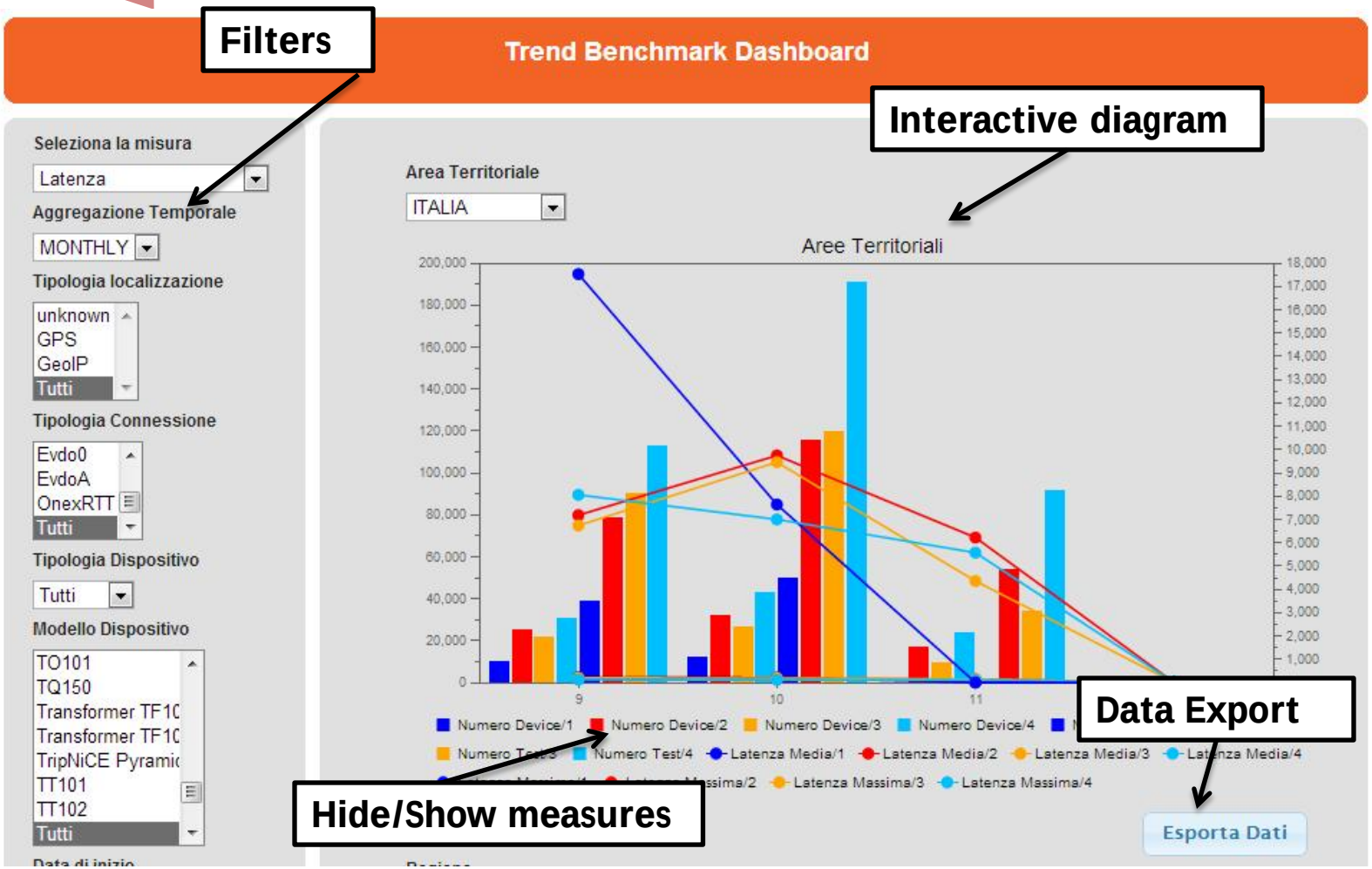
- Data collected through mobile agent installed on smartphone and tablet
  - Round Trip Time
  - Download/Upload Throughput
- KPI
  - Avg
  - Max
  - Percentile
  - Probability Distributions

Radio and Transport Layer

- Data collected through network crawlers exploiting SNMP traps
  - Transmission power, Adaptative modulation
  - BER, QoS
- KPI
  - Avg
  - Max
  - Percentile
  - Probability Distributions
- Alarms
  - Mail alert for measures over threshold

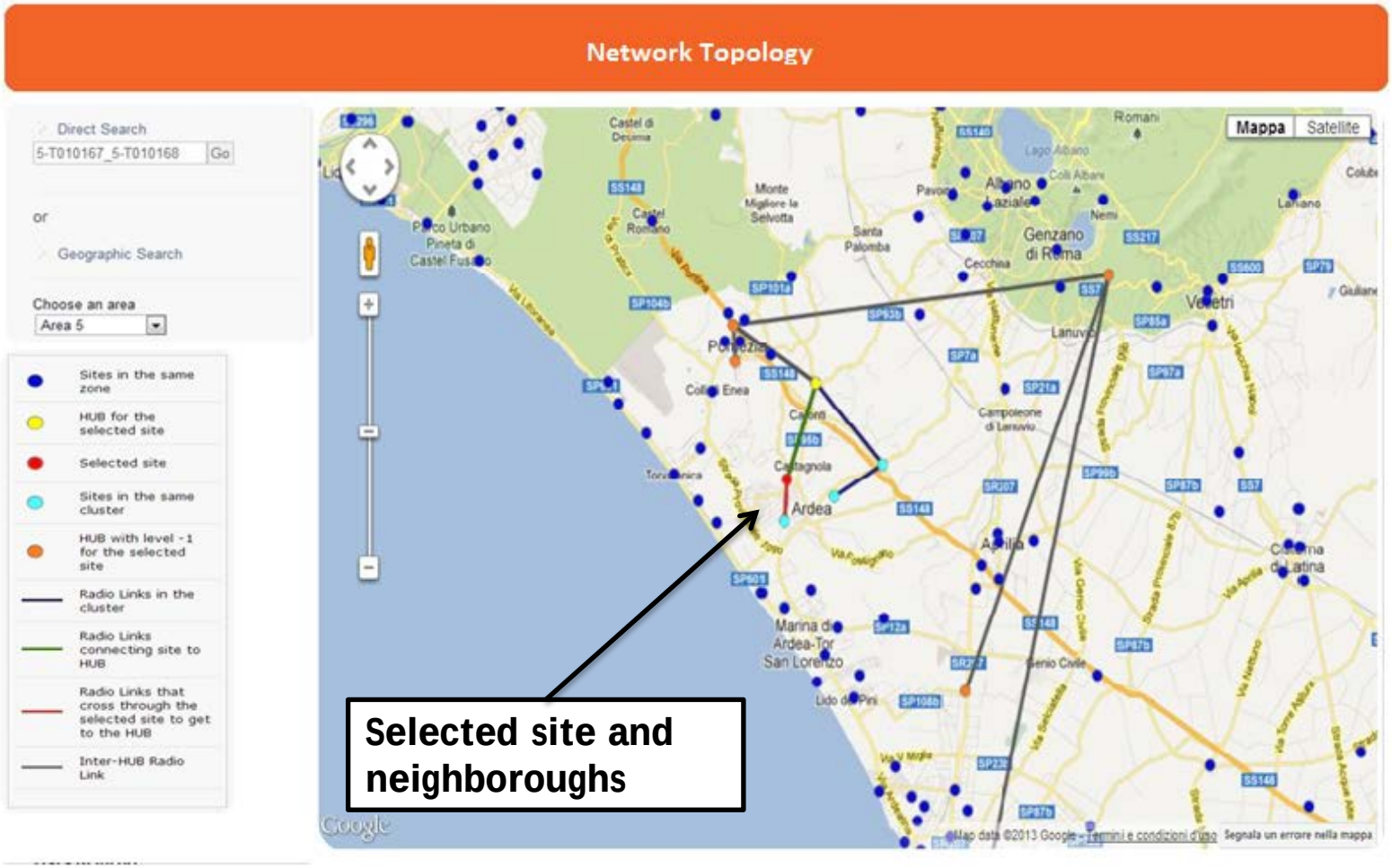
Network KPI Dashboard

Case Study



Network KPI Dashboard

Case Study



Mobile Assistant

What is

Mobile Assistant is a **Field Force Automation** system for effective job dispatching

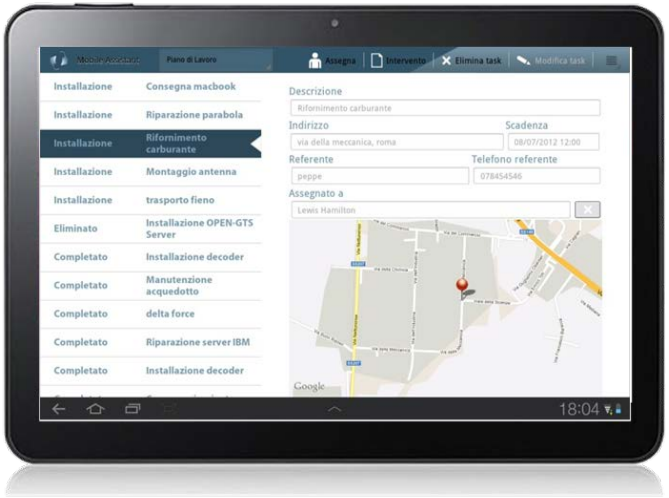
- Designed to manage tasks effortlessly using smartphone and tablet
- “Software as a Service”
- Geolocalization and real-time notifications for effective communication

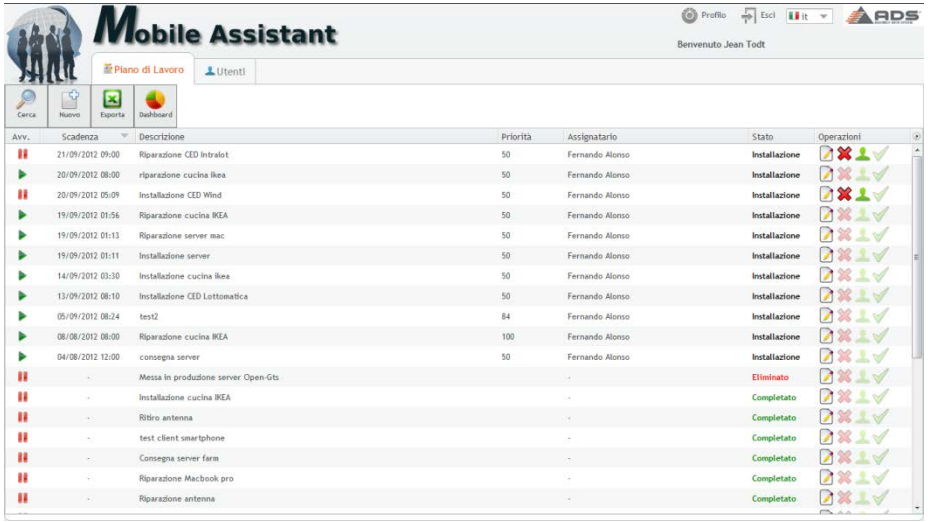
Mobile Assistant

Workplan

PM creates new jobs, assign job to operators and tracks job execution from mobile or web.

Job lifecycle is monitored through proprietary, secure
real-time notifications





- Job definition has a set of predefined details:
  - latitude, longitude, estimated duration, estimated date of completion, priority, description.
- Optional details can be **customized**.

Mobile Assistant

Dashboard

USER PROFILE: PROJECT MANAGER (PM)

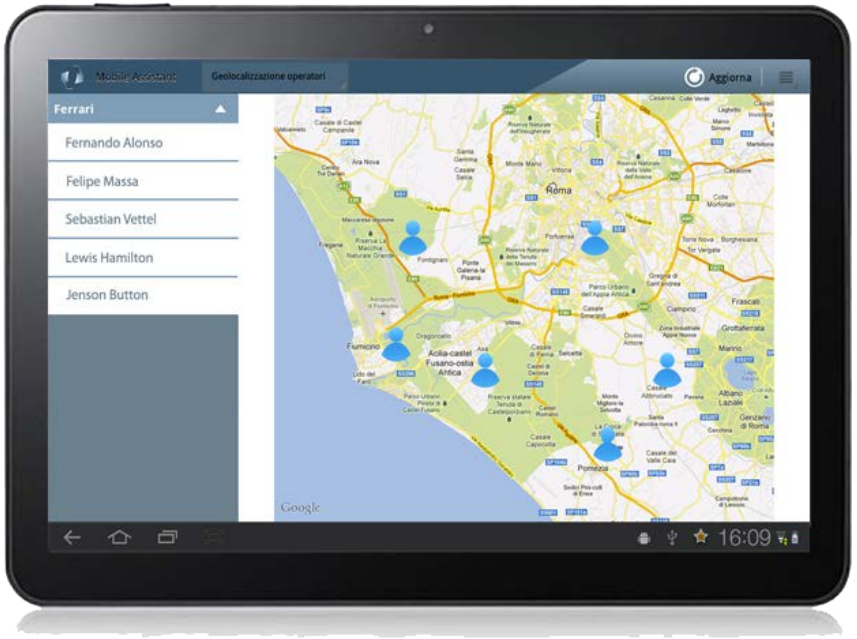
- Intuitive cockpit enables project manager to analyse activity trend on various temporal frames.
- PM can visualize job counts for each state: new, in progress, completed, canceled.

TABLET

Mobile Assistant

Operators geolocation

- Leveraging GPS and real-time communication, PM visualize constantly team locations.
- Power efficient implementation to optimize battery lifetime.
- Mobile Assistant provides navigation support organizing waypoints based on date of completion.



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Mobile Assistant

Benefits

- Effective communication between team members
- Job info collected on site by operator. No need for data input after job execution
- Accurate data collection exploiting GPS, compass, camera
- Data partitioning between teams for large enterprise deployment

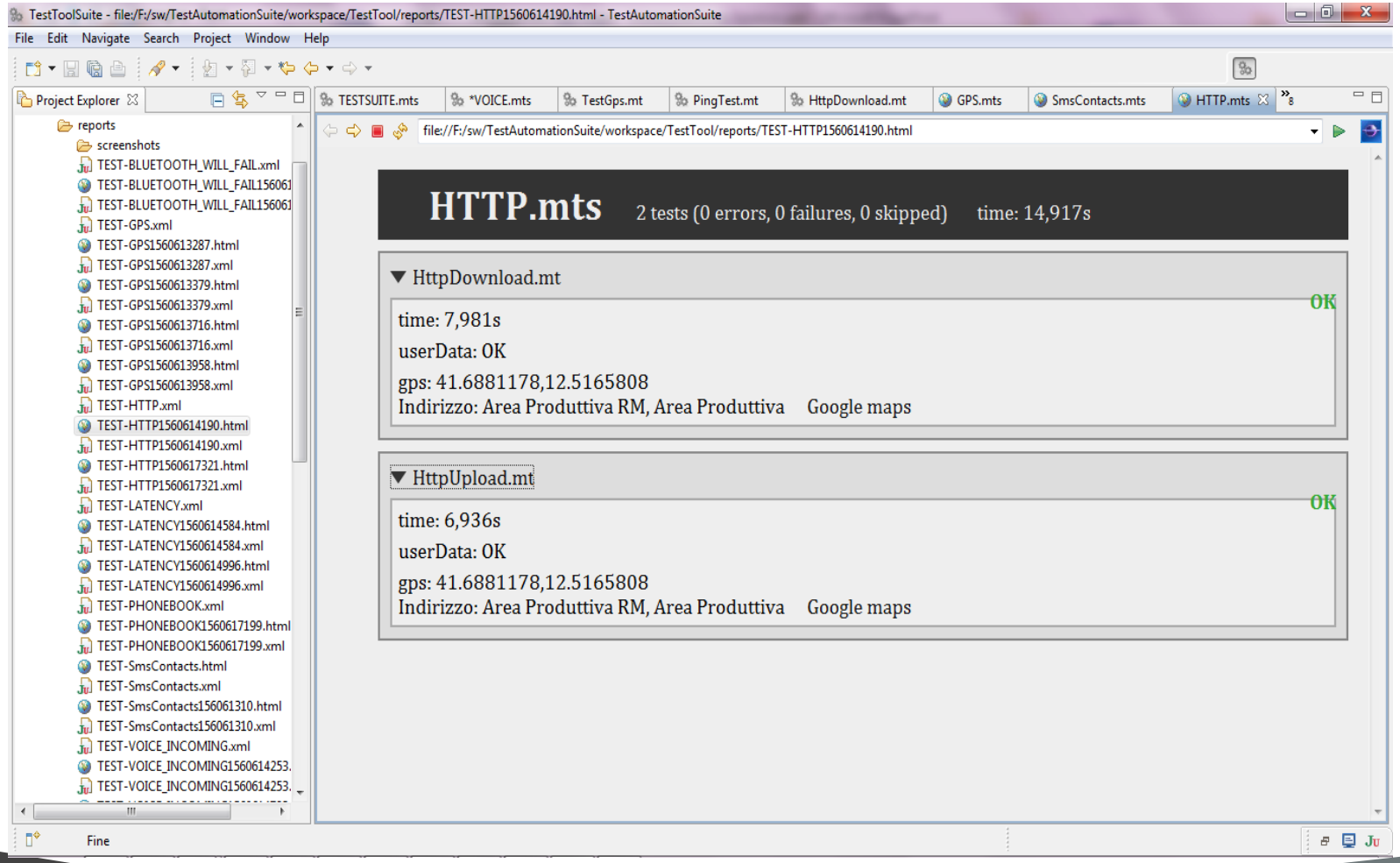
Test Automation Suite

Features

- **High level scripting language for test definition**
  - Same script for all OS
- **Features**
  - Phone call, data connections (FTP, HTTP, streaming), browser, calendar, SMS, email, Bluetooth, multimedia, camera, and many more…
- **Geolocalization and battery metering**
  - Map visualization for drive test
- **Client-Server architecture for centralized data collection**
  - Server connection not mandatory for test execution
  - Data traffic metering not affected

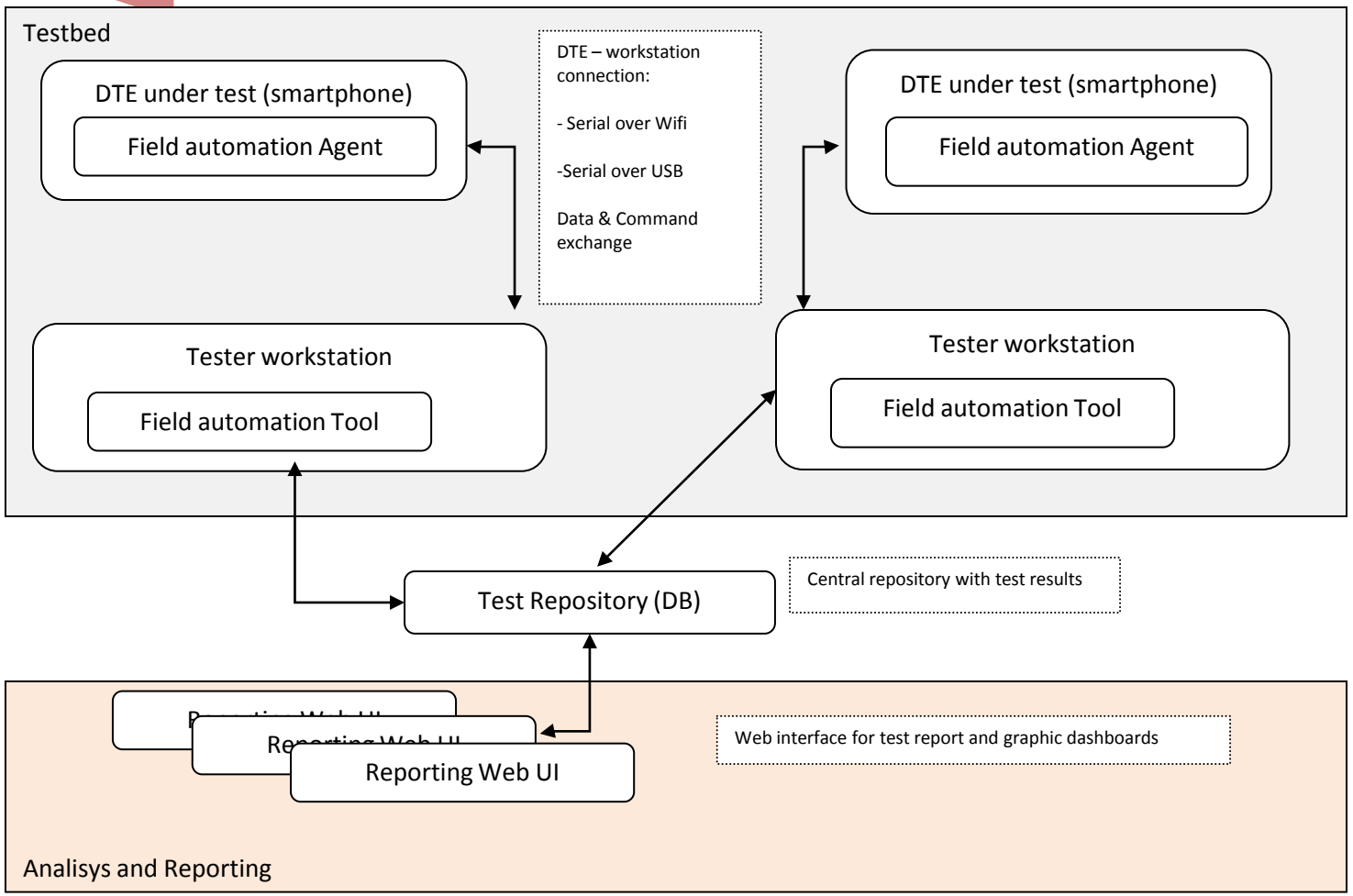
Test Automation Suite

Features



Test Automation Suite

Architecture



Test Automation Suite

Benefits

- **Open-source**
  - Extensible test suite
- **User friendly**
  - Test report in HTML format
  - Map visualization
- **Cross platform**
- **Reduce time-consuming activities in test session (setup, tear down, data collection)**

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IP Solutions

Assembly Data System S.p.A.

10Gbit/s Traffic Generator

Features

- IP packet generator
- Trasmission rate control to simulate different traffic conditions
- Wireshark trace file playback
- More instances can run on same hardware
  - One instance per network interface

```
# TrafGen -i eth0

Sending packets on eth0

TX rate:  [current 4'581.08 pps/0.01 Gbps][average 4'581.08 pps/0.00 Gbps][total 4'581.00 pkts]

TX rate:  [current 4'143.53 pps/0.01 Gbps][average 4'362.29 pps/0.00 Gbps][total 8'725.00 pkts]

TX rate:  [current 4'163.72 pps/0.01 Gbps][average 4'296.10 pps/0.00 Gbps][total 12'889.00 pkts]

...
```

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IP Solution
10Gb/s TRAFFIC GENER.

10Gbit/s Traffic Generator

Benefits

- Competitive solution for network performance test
- Suitable for challenging use-cases on high speed network
- No need for specific hardware

Contact Us

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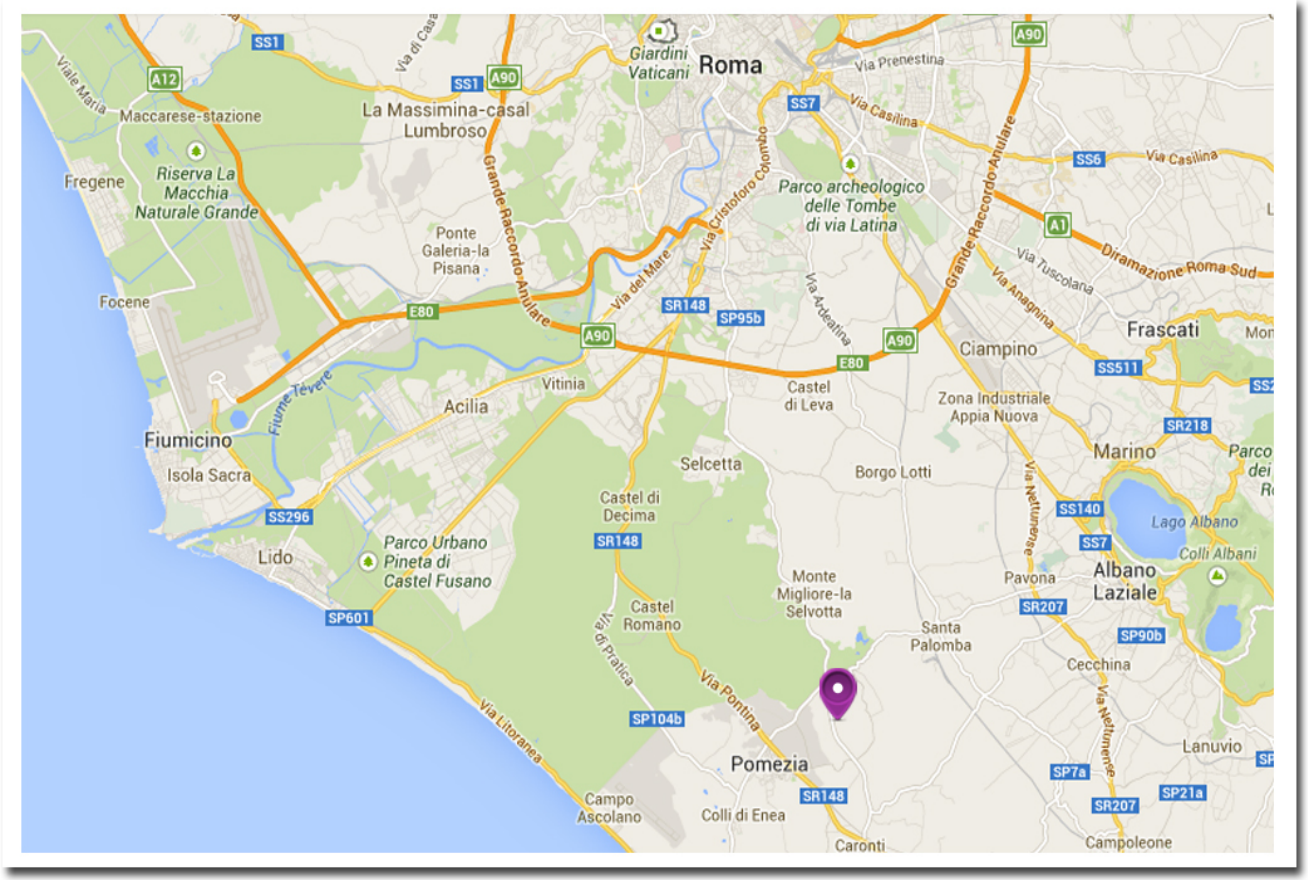
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