ENGINEERING

ORGANIZATION, MARKET AND OFFER

The Engineering Group is the leading Italian operator in the field of software and services, with 7,800 employees scattered between Italy, Belgium, Norway, Republic of Serbia, USA and South America, where the subsidiaries Engineering do Brasil and Engineering da Argentina operate. The consolidated revenues are more than 853 million Euro, with a customer base of over 1,000 major clients throughout all vertical markets: Finance, Public Administration, Healthcare, Energy & Utilities, Industry & Services, Telco. 15% of the production value is both directly and indirectly developed overseas, providing Information Technology projects for over 20 different countries.
System integration, consultancy, IT management services provided by a network of Data Centres located throughout Italy, proprietary products and solutions.
The Research & Innovation department is a partner of the European Union with 250 researchers in Italy and Europe working on numerous innovative projects regarding software re-engineering.
The Engineering Group produces internationally acknowledged open source business intelligence software created by a committed team of software researchers. The solutions can be downloaded from the web site **www.spagoworld.org.**

THE ENERGY & UTILITIES DIVISION

Engineering is the most important, national, domestic hub in the sector: 1,000 process, product and market specialists, 12% of the turnover of the Engineering group, a 30% market share of the entire Italian market reaching peak levels of 50% in the gas and 40% in the water sectors. It shares a complete, exclusive portfolio of expertise with the companies working within the Group, thanks to a system of commercial and technological synergism.
The Software Factory of Engineering directly develops the suite of products and works closely with the Solution Deployment division, which analyses the impact of new standards on products and processes.
The liberalisation of the energy sector is the driving force behind innovation.
The phenomenon of unbundling requires a differentiated solution for energy distribution and sales companies; solutions to support the management of the Grid Code, Electricity Stations, computerised meters, CRM and the new problems introduced by deregulation.

ENGINEERING'S CLIENTS IN THE ENERGY & UTILITIES SECTOR

80 Gas companies
70 Water supply companies
40 Electric Energy companies
20 Companies providing Environmental Hygiene services

All of them use Engineering software.

These include many industrial leaders:

In Italy - ENI, ENEL, SNAM, GDF Suez Energia Italia, Acea, Hera, Iren, Acegas Aps, Edison, E.ON Italy, Agsm Verona, Gas Natural

In Brazil - SABESP

In Spain - Acciona Agua

In Switzerland - AMB Bellinzona

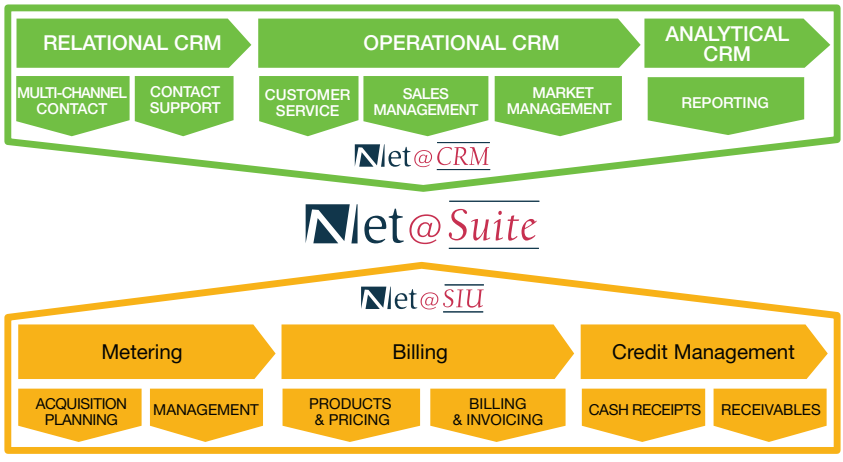
ENGINEERING'S OFFER FOR THE E&U MARKET

THE NET@SUITE'S SOLUTION

Engineering Energy & Utilities Division created Net@Suite for companies selling and distributing gas and electric energy and for companies in the sectors of water supply, computerised heating and environmental hygiene.
Net@Suite is the web-based platform, originally integrated with SOA architecture, with a flexible structure in compliance with the standards, which takes into account time to market, and proactive customers as the new business requirements.
Scalable, integrable technology and competitive leverage are a must not only in merger and acquisition policies and in the handling of high volumes, but also for the purpose of building customer loyalty.

THE MODULES

Net@SIU - system for Billing and the Back-Office
Net@CRM - specialised CRM for customers of the Utilities market



Among the 10 best solutions according to Gartner's Magic Quadrant for CIS products of Customer Information Management.
www.gartner.com/technology/mediaproducts/newsletters/engineering/volume2_issue1/index.html

NET@SIU

Net@SIU consists of the following modules:

Metering

The module offers complete, functional coverage to programme, acquire and manage meter readings. It also corrects and aggregates measurements with the relevant, estimated calculation and prediction of consumption, which is of such importance for the management of the energy balance sheet.

Billing

The module strengthens the historic nucleus of the Product, Pricing, and Billing & Invoicing functions. It sets out the tariff plans, price components and any value added services. It also defines the active cycle, invoicing plans, contract selection, proof of invoicing and subsequent management of any anomalies, actual invoicing and the preparation of data flows to be printed.

Credit Management

The module covers economic and financial requirements and company risk management. As regards cash holdings in particular, it supports payment collection and direct debit management. It also helps check and control any anomalies, unpaid bills and balancing with the invoicing of the distribution companies. It supports the monitoring of due or overdue receivables and it helps plan recovery actions, repayments and payments by instalments. It calculates matured interests and can even manage any litigation procedures. As regards the latter, the Credit Score modules are of extreme importance in the management of customer profiling, according to their habits, and in the assessment of the risks of insolvency/arrears.

NET@CRM

Net@CRM was created as a tool to manage and build customer loyalty in a liberalised market. A system of verticalised Customer Relationship Management for Utilities designed to adapt to specific business demands.
Integration with Net@SIU enables Net@CRM to overcome the limits of those CRM systems which continue to separate commercial customer management from the economic and operative management of the user. Complete coverage of the application areas: opening of utilities, analysis of the entities traced by the system; management of the sales force and commercial campaigns.

THE SOLUTION FOR ENVIRONMENTAL HYGIENE

A complete system to manage invoicing processes within the integrated cycle of urban waste: collection, processing, transport and disposal, cleaning of streets and public areas. The new regulations for environmental hygiene tariffs are replacing the old concept of taxes on waste and are introducing the logic of efficient service in the disposal cycle, by matching the amount produced with the amount paid. Engineering's Environmental Hygiene module acknowledges this change and the new management trends:

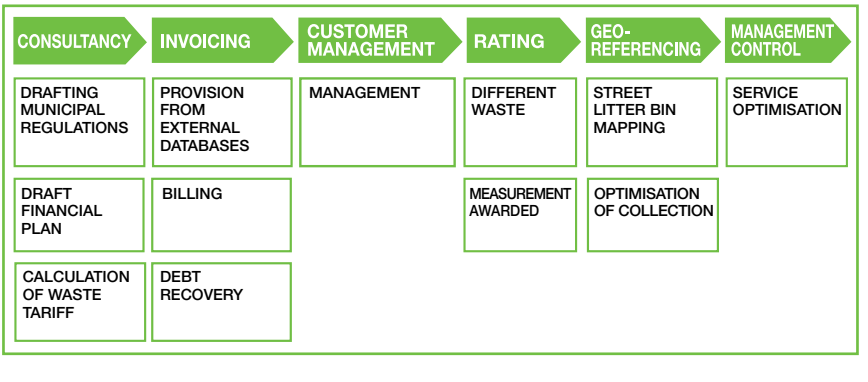
- parametric billing according to user categories, territorial zones, fixed contribution, variable contribution
- customer management: personal records, complaints and declarations, payments, reminders
- links to external databases to automatically receive useful data
- standardisation and data base matching for the purpose of debt recovery
- measuring systems and customised invoicing methods
- tariff simulation based on the cost parameters and minimum quantities of waste produced.

The module was originally integrated with Engineering's Waste Data Management System to manage data recorded by the crusher vehicles during collection.

THE FUNCTIONS

- to calculate bills, advance payments and balance due, in the various components: fixed fee and a variable fee diversified according to user band
- invoicing for each user and with any due date, as advance payment and balance due
- separate or integrated invoicing with gas or water supply services, in compliance with the law
- automatic management of receivables, thanks to direct debit and postal services or optical reader
- parametric application of penalty payments on interest and accruals
- adjustments or corrections to allow the old invoice to be cancelled and a new invoice issued, even by customer counter services
- user monitoring: composition of the family unit, area occupied, intended use
- monitoring of the entire debt collection process, either in stand-alone mode or integrated with other managed services.

THE CHAIN VALUE IN WASTE TAXES



EUROPEAN SMART GRIDS RESEARCH PROJECTS

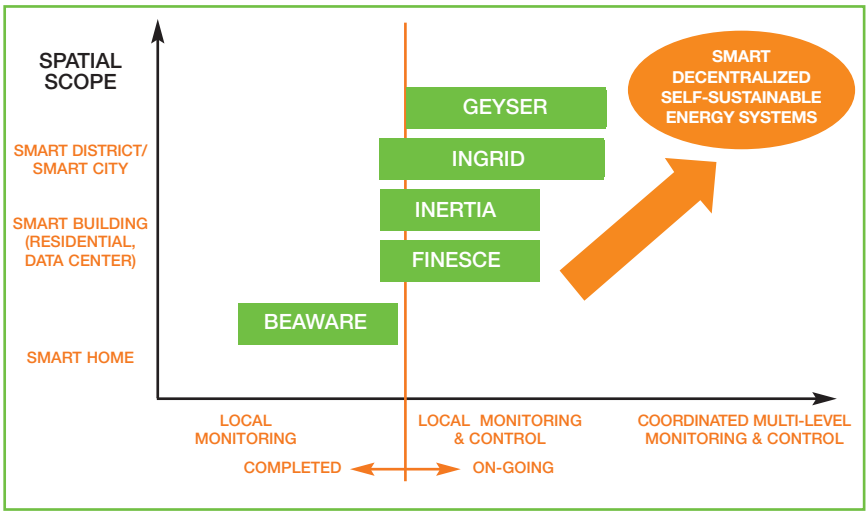
Engineering has been actively contributing to the implementation of the European Smart Energy Grid through the participation in leading-edge research and innovation on-going (GEYSER, INGRID, FINESCE, INERTIA) and completed (BeAware) projects.

Major outcomes from R&D projects consist of smart energy grid applications supporting:

- Energy network operators with larger flexibility to seamless allow the integration of rising shares of intermittent RES, without compromising security and continuity of supply:
  a. Real Time Marketplace for aggregated energy demand/supply flexibility (FINESCE and GEYSER project)
  b. Optimized energy storage management for demand supply balancing (INGRID project)
  c. Hydrogen energy storage coordinated management for Optimal Hybrid Energy Networks Operation (INGRID project)
  d. Optimized Energy Management and Control for Green Urban Data Centers interacting with Smart electricity Grids and Smart Sustainable Cities (GEYSER project)
  e. Multi-Lateral Demand Response for DSO-level Aggregators (INERTIA project).

- Energy sellers/aggregators with effective tools for improving energy efficiency: Real Time Monitoring of Smart Home Energy Consumption enabled by Social Community Pervasive Game (BeAware project).

SMART GRID INNOVATION ROADMAP



INGRID - High-capacity hydrogen-based green-energy storage solutions for grid balancing (www.ingridproject.eu). INGRID is a European research aimed at demonstrating effective usage of hydrogen energy storage for power supply and demand balancing, while ensuring at the same time security and stability of the power distribution network. The approach of INGRID to Smart Grids is to monitor, control and optimize local energy consumption at Smart Districts/Smart City local level, by implementing novel ICT-based cooperative storage-centered inter-grid (multi-network) control strategies. This approach is implemented through a Hybrid Energy Storage Node, controlled by an Energy Management System in charge of operating different optimal strategies (ranging from local balancing of demand and supply, RES local district energy usage optimization, RES curtailment reduction, peak shaving).

Role: Project Coordinator and Smart Grid Architecture and Platform Development

FINESCE - Future Internet Smart Utility Services (www.finesce.eu/).
The FINESCE project aims at demonstrating how the Future Internet ICT platform could pave the way for relevant next generation Smart Grid applications. In particular, Engineering has been engaged in investigating how the effective integration of distributed intermittent Renewable Energy Sources may be realized through a near real-time local energy marketplace. FINESCE results include an innovative energy flexibility marketplace in which aggregated demand flexibility will be traded among different stakeholders, in different time intervals, ranging from hours to minutes.
Role: Leading on Energy marketplace workpackage and field trial

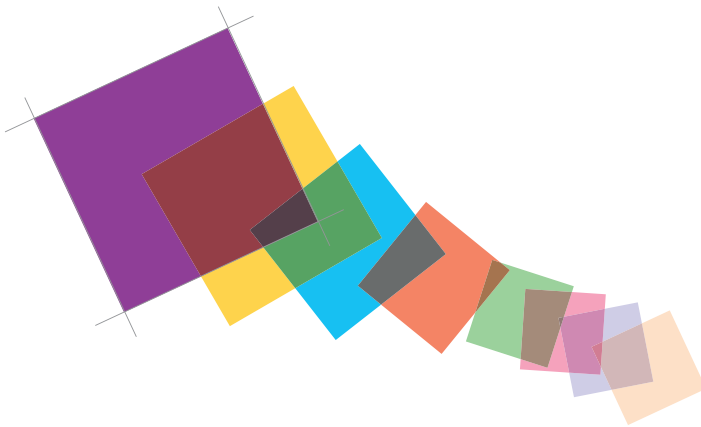
INERTIA - Integrating Active, Flexible and Responsive Tertiary Prosumers into a Smart Distribution Grid (www.inertia-project.eu/). INERTIA is investigating how effectively the Internet of Things/Internet of Services paradigm could be applied to improve the Power grid network Operations, by providing some levels of flexibility through Demand Side Management Operations. It provides an overlay network for coordination and active grid control, running on top of the existing grid and consisting of distributed and autonomous intelligent Commercial Prosumer Hubs. Main Engineering application within INERTIA is Smart Building/Smart Districts Coordinated Energy Management and Demand Optimization, which allows adaptive multi-tier management of aggregation of energy demand, active generation and storage in smart buildings and smart neighborhoods. Other outcomes include an intelligent technological framework for managing and optimizing energy demand and supply processes, both at smart building and smart district level.
Role: Leading on Cooperative Demand Response

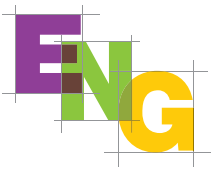
GEYSER - Green networked Data Centres as energy prosumers in smart city environments (www.geyser-project.eu). GEYSER has been investigating how to realize the intelligent integration of energy-efficient networked urban data centers - substantially powered by renewable energy - with energy infrastructures (i.e. smart power grids and district heating) within a Smart City context. The GEYSER vision is to pave the way for a more holistic concept of the energy-efficient data center. This will be done by trading-off energy exchanges with smart city infrastructures against workload exchanges with other Data Centres in its network. The main project outcome for Engineering is a conceptual, software and business framework for efficiently designing and operating renewable energy-powered networked Data Centres acting as a flexible energy player within a Smart City/Smart Grid context. GEYSER has been evolving the FINESCE marketplace by hierarchical coordinated marketplaces with different actors playing in different timescales.
Role: Coordinator, Leading on technology platform

BEAWARE - Boosting Energy Awareness With Adaptive Real-time Environments (www.energyawareness.eu). Main objectives of project have been to study how the original combination of last generation ICT (pervasive sensing, near real-time web services, natural & ambient human-machine interfaces with social games and techniques from behavioural science) can actively contribute to increase residential energy consumers' awareness. The main project outcomes is Energy Life, a mobile pervasive social game which conveys real-time aggregated feedbacks on energy consumption to power consumers.
Role: Leading on middleware platform

ENGINEERING IN THE ENERGY & UTILITIES MARKET

STRENGTHS	BENEFITS FOR THE CUSTOMERS
Reliability and experience: market leader for over 35 years, 1,000 dedicated staff out of 7,800 employees, amounting to 12% of the total workforce	Investment protection
Expertise: in processes and products 200 customers for whom we manage core business processes	All requirements covered Cost reductions for projects and customisations
Focus: a Software Factory to provide the solution and a Solutions Deployment structure for compliance with the standards	Efficiency and time and cost savings
Innovation management: complex projects, expertise in business processes, technological know-how	
Flexibility as the original, technological choice to define and apply the system of tariff options	Rapid response to market demands Customised offers for customer bands
Easily integrates with the principal software on the market	Cost reduction for integration Increase in operational efficiency
Meter reading estimate for advance payment invoicing Configurability of controls to validate meter readings Centralised management of anomalous payments	Reduction in claims and costs Fewer staff tied-up with invoicing
Control of invoiced customers Identification of customers with delayed invoices, payments or actual meter readings	Greater efficiency in debt recovery
KPI module to establish very flexible process indicators and measurement procedures	Real time check on critical processes and immediate corrective actions





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