

achieving smart asset management driving operational excellence



Since its foundation in 2002, Italian multi-utility company Hera has built its reputation as a leader in environmental, water and energy services. That reputation is built on operational excellence - and an uncompromisingly innovative approach smart asset management has made a fundamental contribution to that success.

In largely deregulated utility markets, such as Italy, service providers must be able to meet two goals at all times. Firstly, they must offer continuous, safe and affordable access to quality services for both their business and domestic customers. Secondly, they must do so in a way that satisfies the expectations of their investors and other corporate stakeholders. These goals can only be achieved when the assets which constitute the utility infrastructure are managed with supreme effectiveness.

Although water is the most precious of all resources, it is often the one which people most readily take for granted: you turn on the tap and clean, pure water comes out every time. The reality behind the service, however, is complex and requires continuous and careful attention.

The infrastructure which serves the distribution network must connect reservoirs and processing plants with every home and workplace. Aging elements are subject to a process of continual renewal, while any damage must be identified, prioritized and remedied with the minimum of disruption for the customer and at minimum cost. Early action is essential - small cheap-to-solve faults can soon cost millions if left undetected.

Renewal, repair and extension must be executed in parallel with continuous and meticulous maintenance - and all this must be done as cost-effectively as possible - keeping essential field service teams both motivated and productive.

Hera are keen and forward-thinking digital and business innovators. CIO Piera Fasoli states categorically, "Hera knew from the start that outstanding information management would be the key to sustainable success - and would be particularly important in asset management."

Making process the priority

Italy is a great country for a water industry showcase. The legacy of Roman water management still very much in evidence: the world-famous Trevi Fountain in Rome, for example, is still fed by water from two-thousand year old aqueducts. But behind these physical remains, there are also traces of the processes used by the Romans to manage their systems – you can, for instance, still see lead piping with supply and maintenance stamps.

Before taking a closer look at the Hera smart asset management system, it's worth asking what the biggest difference is between then and now – between the way the Romans set the standard for water management more than two thousand years ago, and the way we need to do the same today.

The changes are numerous, in usage, expectation and practice. We seldom use public bath houses today, but every home has baths and showers with even the most environmentally advanced washing machines and dishwashers use more water in a week than a Roman family would use in a month.

Expectations are different too. Some theories put water contamination from lead pipes as a major factor in the fall of the Roman Empire.

Today, we demand levels of quality and purity which would have been unimaginable even two generations ago.

But for water management, and more specifically for the management of the water infrastructure and associated assets – the biggest change of all is all about information and communication.

Communication is the key

At Hera, dramatic recent advances in information and communications technology are key to their attitudes and approaches to Smart Asset Management. For CIO Piera Fasoli the connection is clear.

“Information and Communication Technology, at its best, should always have a transformational impact – and that is certainly the case for Hera. And the basics? Mobile communications mean we can keep extended teams of field workers continually informed and in contact. These same mobile communications mean that any member of the public we serve can contact us at any time and from any location. Low-cost sensors and machine-to-machine communication now provide unprecedented levels of real-time digital intelligence – and low-cost computing means we can analyze and act on data with better results than ever before.”

Behind these genuinely empowering changes in Information and Communication Technology, however, it is the cultural shift promoted by Hera that has made their new approach to Smart Asset Management so successful.

Think holistic

Only through continuous and comprehensive monitoring of the distribution network can Hera ensure:



Quality: Confident that all safety and purity standards are met and that any dip in quality can be identified and rectified.



Flow: Understanding the volume and rate of flow is probably the single most important measurement for any water company, both with regard to meeting immediate demand and in terms of planning and usage analysis.



Infrastructure: With 53,000 kilometers of water infrastructure under management, Hera must be aware of any breach of integrity to any tap, valve, gauge, filter or pipe anywhere in the system – with service records and part details for every asset instantly available.

Meeting these three essential demands can only happen when a company is organizationally and culturally fit – and this is what differentiates a genuinely smart utility like Hera from some other less forward-thinking service providers.

This is about being able to work and think “holistically” – to respect different professional specialties while at the same time being absolutely committed to positive transparency across the enterprise. This may sound a bit academic – but for Hera, this principle translates directly into a number of core behaviors and characteristics which are now recognizable across the enterprise:

- ✓ The company needs to know the location and real-time status of every point of intervention
- ✓ All associated historical data – including service and parts records – must be instantly available
- ✓ Every intervention must also generate a clear profile of the requisite service skills and resources needed to achieve timely and cost-effective resolution
- ✓ The appropriate redirection and/or reallocation of distribution resources needed to bypass any intervention underpins the ability to maintain both quality and continuity of service
- ✓ Communication is key to acceptance and good client relations – together with the ability to manage any agreed compensation, incentive or discount
- ✓ No job is closed unless all actions have been documented and the record added to the ongoing Hera knowledge repository – driving the cycle of continuous improvement.

Hera and Atos

As a multi-utility company with a clear vision for their future, Hera had a very clear idea of the character and capabilities of any potential IT partner.

Walter Fontanel, Atos Client Executive for the Italian Water Industries, remembers Hera's position well, "Before even considering technology competences, Hera made it clear that they needed to partner with somebody who genuinely understood how their industry works. But that in itself was not enough. In a country and a sector with such specific national standards and practices, a real depth of local knowledge was also a prerequisite."

In terms of the technology challenge, information engineering and systems integration would be the core skills - the need to provide exceptional connectivity between what had previously been discrete systems was a major factor.

Atos was able to demonstrate the depth of experience required in three key areas of business technology:

Silo busting: Hera could only achieve the desired "holistic" process view with a partner able to help them break down departmental silos. This new transparency was a founding principle, and would enable the company to generate the essential actionable intelligence needed for Smart Asset Management.

Real-time: Hera needed to be able to paint and act on a "true picture" - and this meant knowing the actual status of events, resources and infrastructure components. This meant being able to subvert traditional process sequences based on "paper chains" - replacing them with processes in which multiple active parties could operate simultaneously to optimize resolution.

Geo-location: Just as this new intelligence is heavily rooted in time, so it is similarly fixed in space. But this is not just about the location of distribution network assets - it's about the constantly changing location and status of the engineers and support workers needed to resolve an incident.

The solution

Atos were entrusted with four concurrent project streams in the design and delivery of the new Hera Smart Asset Management solution:

- ▶ Asset management
- ▶ Work management
- ▶ Mobile work management
- ▶ Outage, emergency and technical support center

Elio Villa, Atos Smart Utilities and GIS specialist, summarizes the scope of these work-streams, "Each of these projects included extensive integration tasks. These involved both heritage systems, such as the existing asset documentation archives, and the need to bring new technologies on-board. These included: ESRI ArcGIS; GIS Connex; and both sector-specific and generic instances of SAP"

"Atos established and ran the technical support center as a point of central reference for all this activity, ensuring that at any time during the overall development of the Hera Smart Asset Management solution, any member of the extended project team had immediate and direct access to the best technical expertise."

Atos' international operations were a real plus here, giving Hera the benefit of both market-specific and technical experience across Europe and beyond.

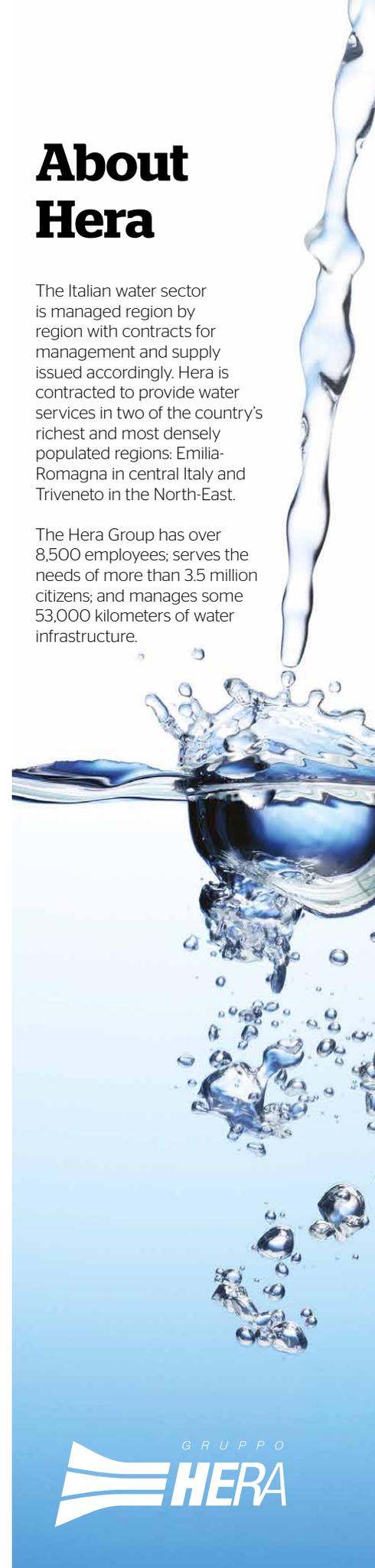
Digital ergonomics

Atos mastery of digital ergonomics was especially appreciated by the Hera team. It doesn't matter how clever the extended integration of new and heritage systems is: unless a solution is intuitive and easy to use, people will reject it. Hera's 8,500 employees have been enthusiastic in their acceptance of the new Smart Asset Management Solution: this is smart technology on a human scale.

About Hera

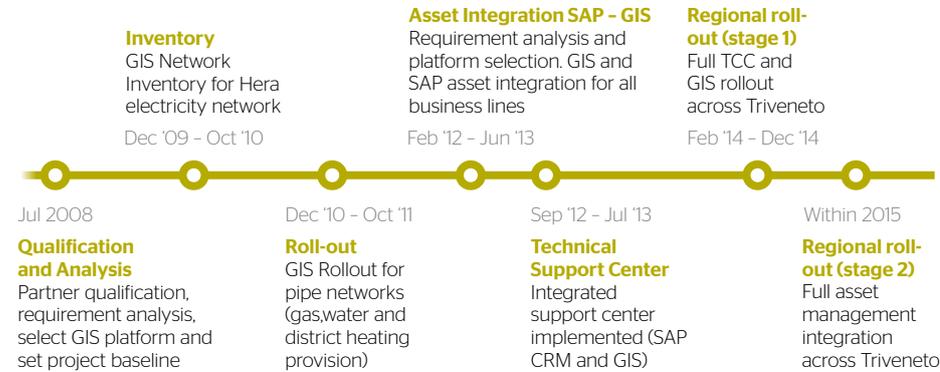
The Italian water sector is managed region by region with contracts for management and supply issued accordingly. Hera is contracted to provide water services in two of the country's richest and most densely populated regions: Emilia-Romagna in central Italy and Triveneto in the North-East.

The Hera Group has over 8,500 employees; serves the needs of more than 3.5 million citizens; and manages some 53,000 kilometers of water infrastructure.



Continuous evolution and exploration

The Smart Asset Management solution enjoyed by Hera in its Water Division today is a direct extension of the work started between Hera and Atos (then e-utile) back in July 2008.



Signing-off

As a multi-utility company, Hera has already replicated the exceptionally high standards of asset management described in this case study across all five of its business specialties: gas, district heating, water and wastewater, electricity and waste.

Hera is keen to share the experience in smart asset management it has achieved together with Atos. Any organization needing to manage a physical distribution network today must be able to manage its assets with exceptional agility and intelligence. Hera has met this challenge, and in doing so has set the highest of standards for this critical activity in this most essential of all utilities.

"Smart asset management for Hera," states Piera Fasoli, "is not just about protecting physical resources - important though this is. It is ultimately about ensuring the wellbeing of those we serve and as such, is central to the reputation of our company."

The team

Since 2008, the composition of the overall team has naturally varied according to the project status and task in hand. The team comprises 5-15 people Atos business technologists; 3-5 GISConneX specialists from Imagem; and 5-12 members of the Hera IT and business teams.

Atos provides overall project management; system design; requirement analysis; system implementation and integration while Hera itself manages infrastructure setup; end-user training and change management.

The benefits

- ▶ Improved quality and continuity of service
- ▶ Reduced risk of failure/accident
- ▶ Raised safety levels for staff and equipment
- ▶ Protecting assets across the distribution network
- ▶ Reduced maintenance costs
- ▶ Improved knowledge of the grid/asset behaviors and trends
- ▶ More effective field service inspection.

About Atos

Atos SE (Societas Europaea) is a leader in digital services with 2013 pro forma annual revenue of €10 billion and 86,000 employees in 66 countries. Serving a global client base, the Group provides Consulting & Systems Integration services, Managed Services & BPO, Cloud operations, Big Data & Security solutions, as well as transactional services through Worldline, the European leader in the payments and transactional services industry. With its deep technology expertise and industry knowledge, the Group works with clients across different business sectors: Defense, Financial Services, Health, Manufacturing, Media & Utilities, Public Sector, Retail, Telecommunications and Transportation.

Atos is focused on business technology that powers progress and helps organizations to create their firm of the future. The Group is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and is listed on the Euronext Paris market. Atos operates under the brands Atos, Atos Consulting, Atos Worldgrid, Bull, Canopy, and Worldline.

For more information, visit: atos.net

For more information, contact: dialogue@atos.net

atos.net

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