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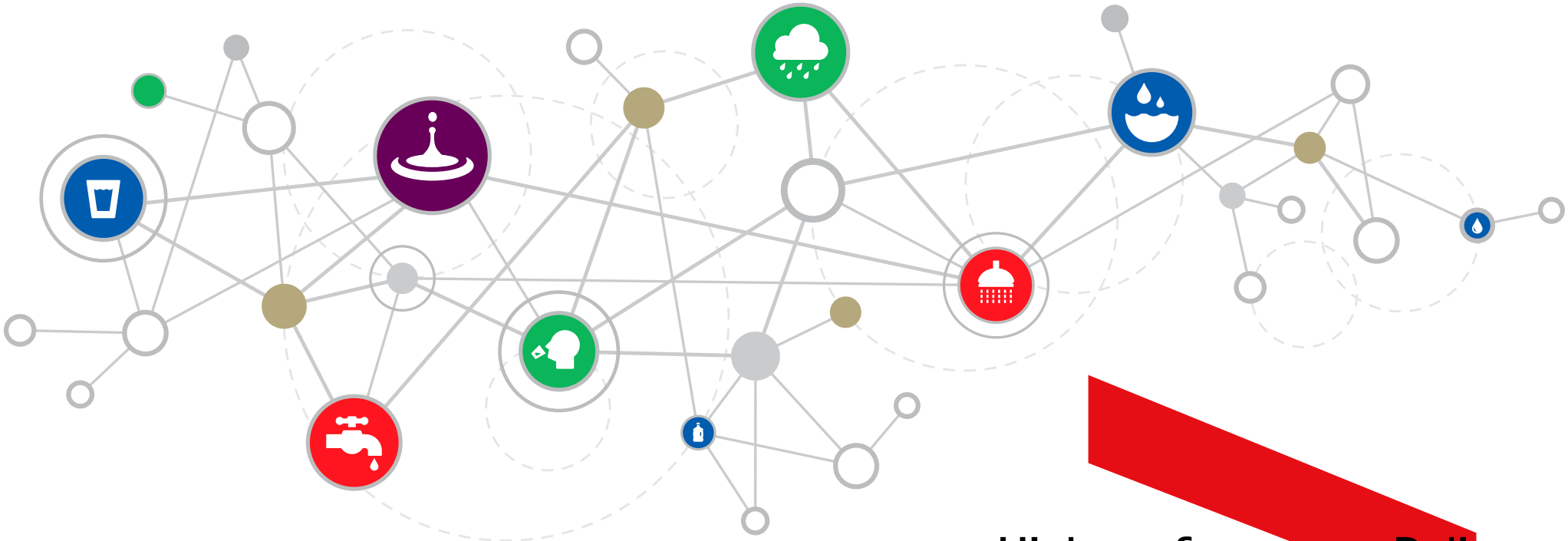
Accenture Water Analytics



High performance. Delivered.

Facing the future

Water utilities face intensifying pressure to improve customer service, strengthen resilience and deliver security of supply. They must achieve these major business goals against the backdrop of a fast-changing environment in which population growth, climate change, changing regulation and a heightened focus on affordability are all playing a major role.

Despite their significant investments in data systems, utilities' operational decision-making remains largely reliant on after-the-fact information – such as alarms, work history and customer contact – that drives reactive behaviours. Water utilities are not able to see the cost and performance of their asset systems in real time, which means they often miss opportunities to act quickly and proactively. As a consequence, they have to deal with avoidable challenges such as:

- high operational costs of asset failure
- high capital costs to build redundant capacity, and
- customer complaints and increased risk of non-compliance .

The question is how can water utilities stretch their resources to address these challenges to improve today's service and tomorrow's resilience? The answer? We need a better approach.

What if water utilities could...

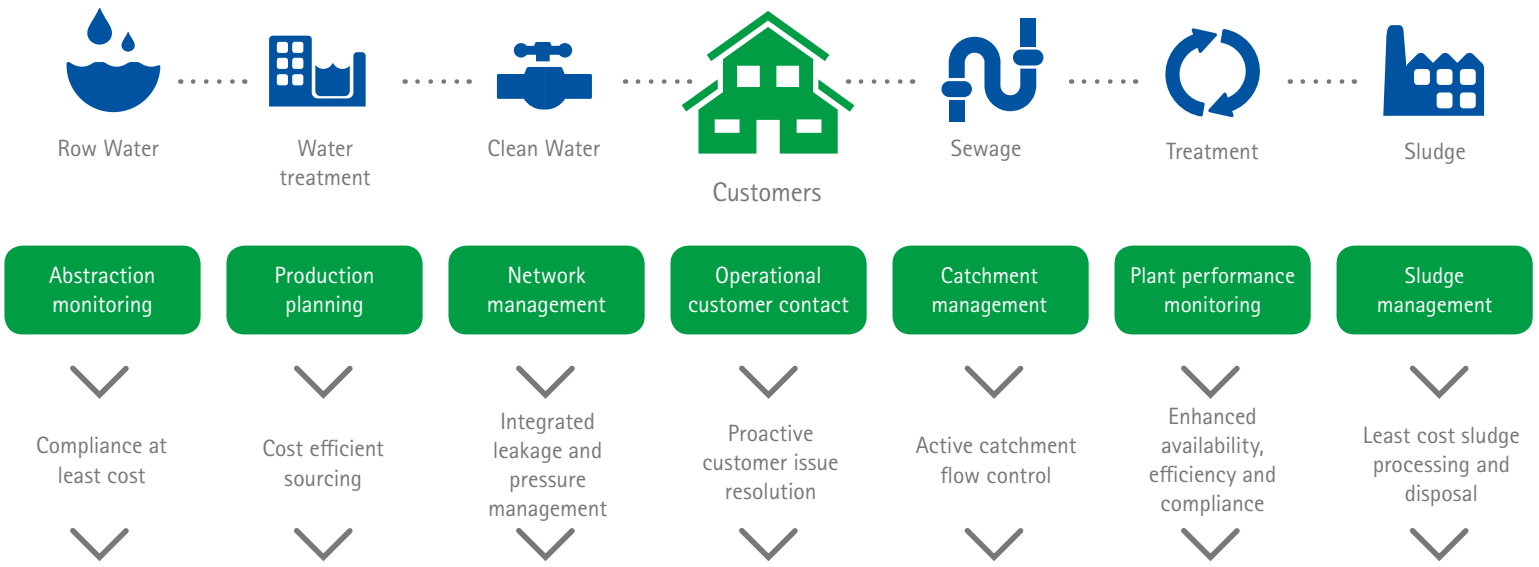
- see the costs and performance of their asset systems in near real time?
- share that view across all operational and planning functions?
- model their asset systems to understand the impacts of actions they plan to take?

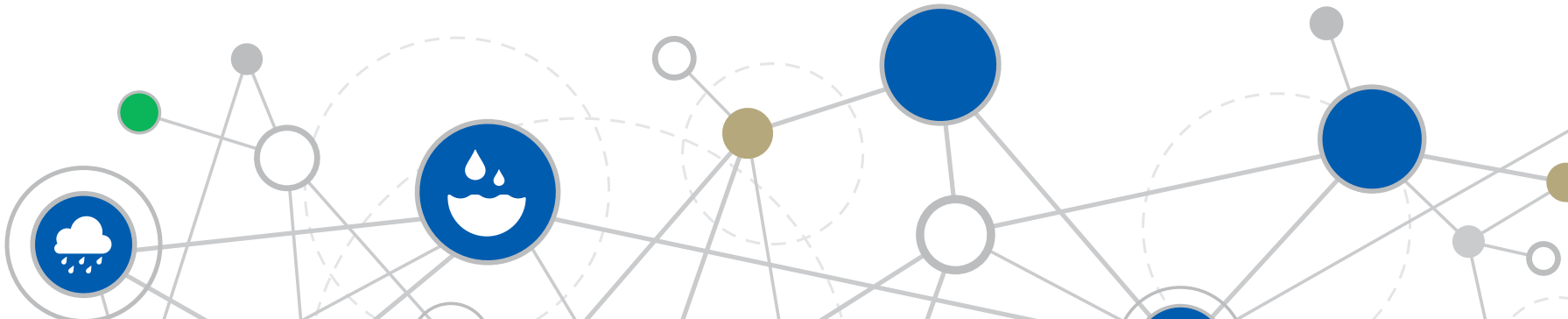
Being able to achieve these capabilities would change the way utilities manage their assets. They would be able to act faster and plan ahead with a shared commercial awareness of the value of collective decisions.

The right solution...at the right time

To help water utilities achieve these goals, Accenture has developed a comprehensive suite of smart applications and services – Accenture Water Analytics – that enables water utilities to understand and manage the performance of their assets as dynamic systems. (see Figure 1).

Figure 1: High performance across core operations.





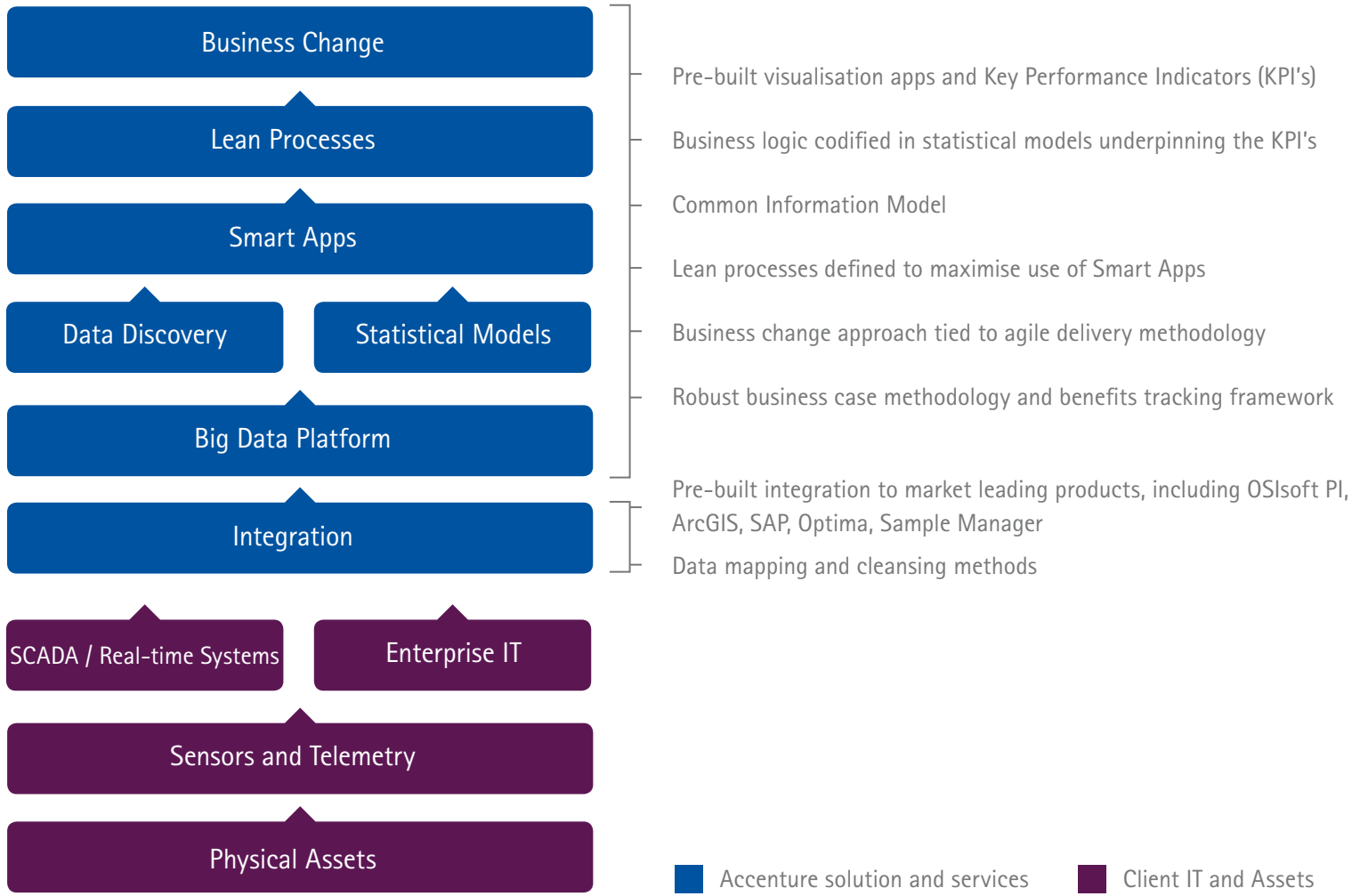
The Accenture Water Analytics solution combines the power of cloud computing, operational technology, big data and analytics. By doing so, it helps utilities to realise the potential value of the installed base of instrumentation, SCADA and telemetry already embedded in their network and plants (see Figure 2).

With a ready-to-deploy suite of apps, designed with front-line utility staff, our service enables utilities to aggregate data across a myriad of legacy operational and IT systems to – very simply – see, manage and optimise the performance of their business.

Technology alone cannot unlock this value. Water utilities must continually re-think the way they operate and make decisions. Accenture has designed detailed business processes that cut across artificial organisational silos to make next-generation.

Figure 2: The Accenture Water Analytics Solution.

Overview of Accenture Water Analytics



Maximising value

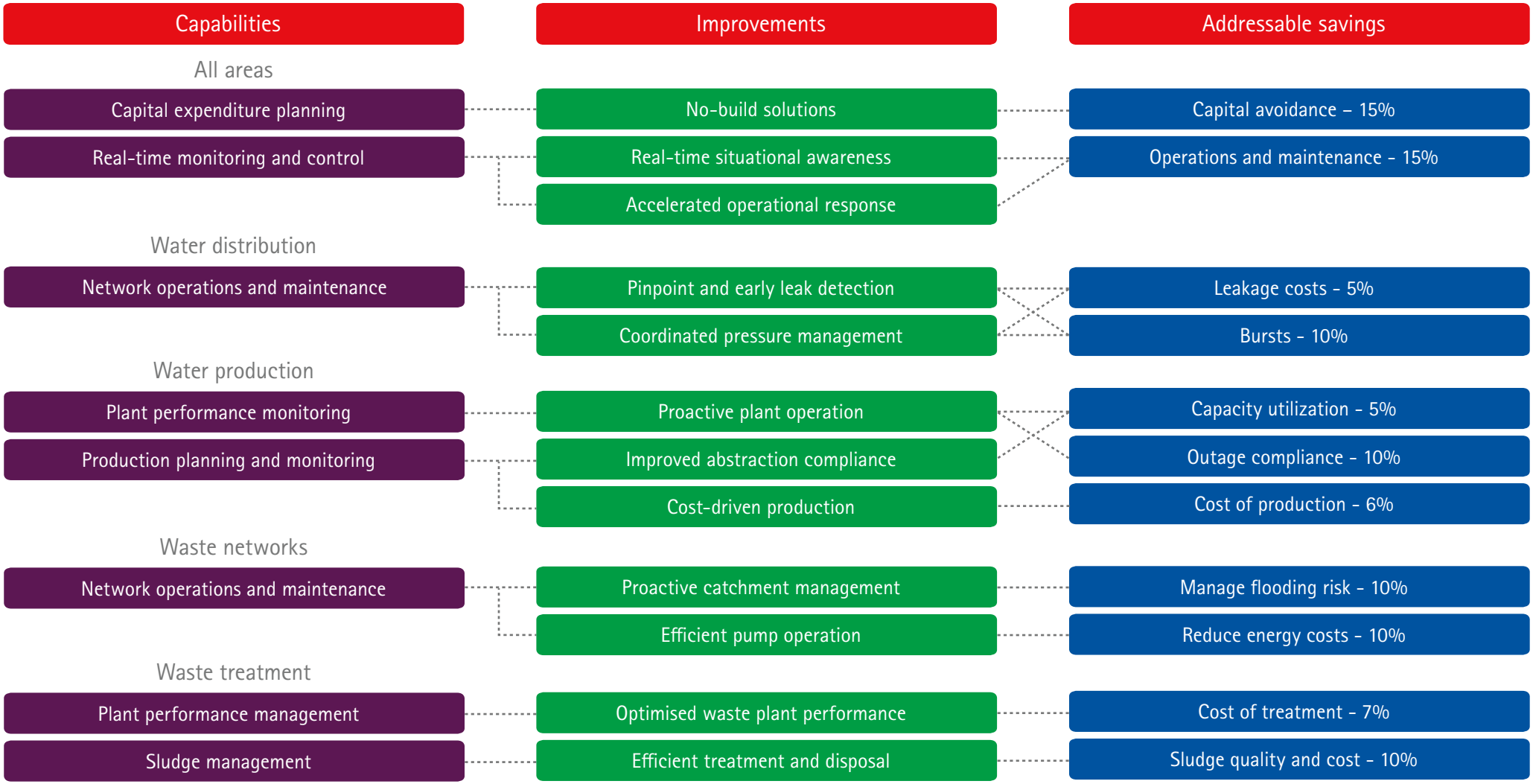
To unlock greater value, water utilities need to shift from only monitoring historical performance. A new array of technologies and applications is now available to help them proactively monitor, manage and eventually automate many critical operational processes in real time and across the entire network.

By assembling these new technologies and combining them with deep operational insight, Accenture's suite of applications and services enables utilities to trial and implement solutions faster, cheaper and smarter. This equips utilities to:

- view the performance and costs of their assets in real time, spotting risks and vulnerabilities before assets fail and customers are impacted
- make proactive decisions to improve customer service and mitigate environmental risks
- keep on top of the production cost of water every minute of every day
- offer affordable operational options in place of expensive bricks-and-mortar solutions
- be more responsive to customers
- make the most of sensors and telemetry already embedded in network and plant assets.

When deployed, Accenture's suite of apps can help deliver all the above outcomes, and deliver total expenditure (totex) savings of 10-15% percent (see Figure 3)

Figure 3: Benefits from Accenture Water Analytics Capabilities



Showcasing the technology

Accenture's suite of apps uses a common information model to integrate data sourced from a wide range of real time and business information systems. This ensures that performance and operational information is available where, when and how it is needed. Provided as a "pay as you go" cloud service, the apps enable water companies to rapidly achieve significant cost savings, track benefits and demonstrate clear ROI.

The water industry invests heavily in operational technology, instruments, SCADA and historians. However, the data these produce have limited inherent value unless they are used to generate timely, actionable insights.

Until recently, giving context to real-time data has represented a huge technological challenge. Every instrument in an operational network produces its own unique stream of data. As a result, utilities seeking a consolidated view across the enterprise must be able to aggregate information such as manufacturer, installer, age, calibration and use patterns from every one of hundreds of similar devices.

Accenture's solution overcomes this challenge by handling massive volumes of data from a large variety of IT and OT data sources – all with unpredictable veracity. Our solution platform is engineered to analyse data from thousands of assets, applying business rules in an engine that creates key performance indicators, from tens of thousands of real time data sources.

Using the power of parallel processing in a big data platform, and an automatically scalable and secure cloud architecture, the solution's suite of apps provides predictable performance from complex analytics, in an easy-to-use geospatial visual environment (see Figure 4).

By providing rich analytics and visualisation, Accenture Water Analytics solution's apps help utilities to transform their decision-making at every stage of the value chain. In an increasingly challenging environment, it's the right solution, at the right time.

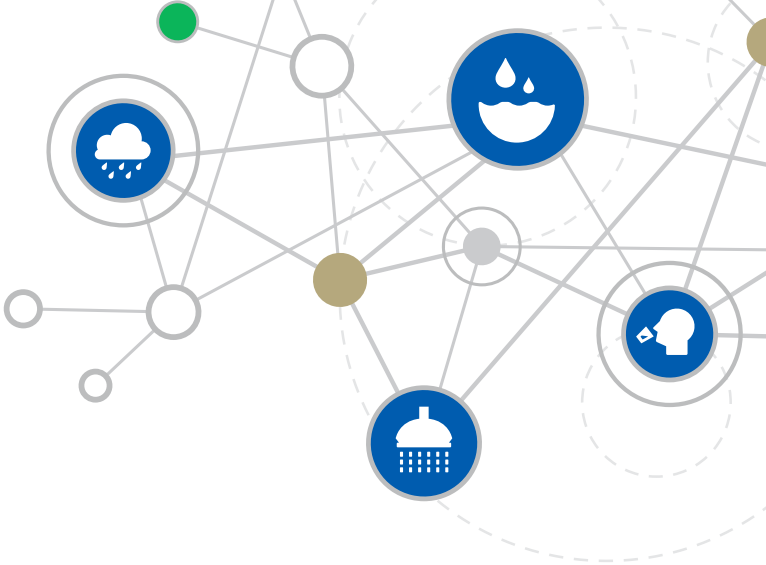
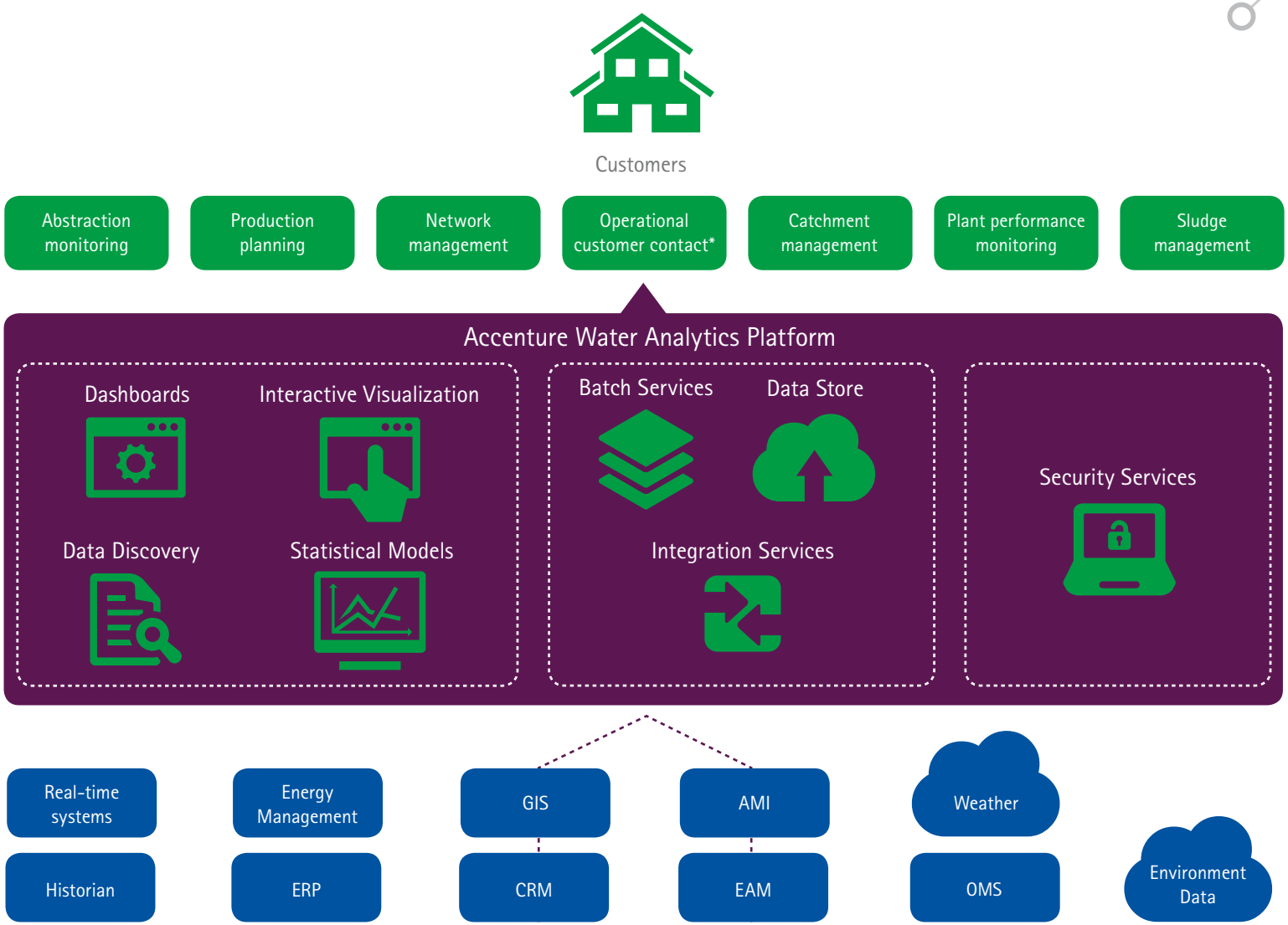


Figure 4: Accenture Water Analytics Architecture.



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