INCREASING OPERATIONAL EFFICIENCY & ADDED VALUE THROUGH A SEAMLESSLY INTERCONNECTED NETWORK OF DIGITAL TOOLS
At Enova, a continuous drive for innovation is an integrated value: innovative to be sustainable means across our organization we strive for new ideas and methods that add value to our clients and their customers, while preserving the world’s natural resources. In addition to analyzing building, client and end-user requirements, Enova pioneers by creating solutions of tomorrow before concrete needs manifest. In 2018, Enova won the Silver Global FM Award for its digital transformation of the FM industry in the Middle East and beyond.

At the core of our excellence guarantee stands our smart monitoring platform Hubgrade, which currently monitors and analyzes data from over 13,000 data points and 2,500 assets across the region. In addition to powering custom-made B2B and B2C dashboards that enable automated reporting and increased awareness, Hubgrade is also entirely integrated with our operational tools and the mobile applications for enhanced efficiency and environmental performance. For Enova’s Energy Performance projects, Hubgrade serves as M&V tool to annually guarantee more than AED 30 million in utilities savings, equivalent to 37,000 tons of CO2 avoided.

Enova’s digital roadmap 2.0 will optimize the existing digital suite further, with several innovative technologies currently being trialed together with clients to bring both their facilities and the industry forward – IoT, Machine Learning, Chiller Plant Optimization are only a few examples of solutions on the brink of a wide implementation. Current enhancements also focus on an internal digitalization with the ‘digital employee’ and safe and efficient processes across the business at its center.

**AWARD-Winning Digital Suite As Strong Foundation**

We are witnessing a period of rapid disruption that promises to transform the way businesses and governments control the use of water, energy and other precious resources, as well as their management of waste and recycling. To stay on top of this evolution, our interconnected digital suite leverages the power of advanced data gathering and analytics to boost operational and financial efficiency and drive environmental performance.

1- Hubgrade, our Smart Monitoring Platform

Since Enova’s founding in 2002, helping our clients become more efficient, while reducing their environmental footprint at the same time, has been our key priority. Having identified efficiency, flexibility, transparency and simplicity as main client needs when it comes to resource consumption, our responding solution is transparent real-time data, giving the customers a clear overview of when and where which resources are consumed in which quantity. Therefore, 2014 was not only the year Enova became the first fully accredited ESCO in Dubai, it was also the year Enova launched its Energy Saving Center. Later rebranded as Hubgrade to reflect the full range of its capabilities, this smart monitoring platform collects, analyzes, and reports on all resource usage data: energy consumption, water consumption, and waste production.

At Enova, we realize that clients need a customer-centric integrated solution that gives access to clear live data anywhere and at any time. In addition to automatically created and issued monthly reports, Enova’s clients also have the option to get customized online dashboards or to interact through the Enova by Veolia App.
Hubgrade has resulted in major savings over the last few years (over 40% in some facilities) and has become a reference for all Enova clients. As an example, Majid Al Futtaim uses Hubgrade data to set the baseline and track progress for its ambitious Net Positive Commitment strategy. Another success story is Sheraton Dubai Mall of the Emirates, which was connected to Hubgrade in 2017, resulting in instantaneous value creation. Not only were energy saving opportunities identified, but the tool also assists in everyday operations of the hotel. As an example, alarms signal a drop in temperature of the hot water system or deteriorated levels of Indoor Air Quality, allowing the operational teams to take action before the guests notice a change or feel any discomfort.

As we raise the bar even further by guaranteeing energy and thus also financial savings, we must have the right tools in place, so that analysts are able to eliminate drifts and identify savings opportunities. Hubgrade is embedded in a network of smart Energy & Facilities Management systems, such as CAFM, BMS and eSight software. Our recipe for success is a combination of experienced energy analysts and engineers operating in Hubgrade and technicians in the field equipped with hand-held PDA devices, coupled with the power of data and the speed of digital technologies. This interplay enables Enova to intervene in quick and targeted actions to optimize energy performance and action reactive and preventive maintenance to optimize asset lifecycle duration and maximize occupant comfort levels.

Enova manages over 2,500 assets across the region, including shopping malls, airports, offices, schools, hotels, clinics and residential buildings. Currently, data from more than 13,000 points is monitored via Hubgrade, which manages more than 350 GWh of energy every year. Thanks to the constant monitoring and analysis of data, areas of optimization exceeding everyone’s expectations were identified, resulting in quick wins for our clients. To name only a few:

- Detection of a faulty automated chiller valve leaking water when in off-mode;
- Optimization of sequencing strategies of chillers, pumps, and cooling towers;
- Identification of incorrect setpoints for space temperature, indoor air quality, cooling towers, and chilled water
While Hubgrade’s core concept stayed the same over the past years, innovation and creativity have accompanied its evolution into what it is today and will continue to shape its range of services and capabilities in the future. Below are examples of added solutions:

- **Integration of Hubgrade with the Computer-Aided Facilities Management (CAFM) software and existing asset-specific systems:**
  To keep installation and operating costs down, Hubgrade has the ability to read data directly from existing systems on-site, such as BMS, CMS, SCADA, etc. The integration with CAFM allows for automated task creation. When a drift alarm is signaled on Hubgrade, a task is automatically logged in CAFM which notifies the site operations of a necessary action directly on their PDAs. In addition, Hubgrade can also be used to remotely control systems with the capability to change setpoints, turn equipment on/off, set schedules, etc.

- **Hubgrade as optimal Measurement & Verification (M&V) tool:**
  The intelligence and analyses that are built into the system facilitate the M&V process and ensure accuracy and on-time delivery. All baseline adjustments are done instantaneously and consider weather, occupancy, schedules, etc. Currently, Hubgrade is used for the M&V of the first two governmental ESCO projects in Dubai (retrofit of 7 office buildings and 150 staff accommodation buildings), guaranteeing more than 30 million AED of savings every year.

- **Smart Waste Management:**
  Through the connection of Eswap (Enova Smart Waste App) and Hubgrade, clients keep track of their facilities’ waste generation and identify opportunities to increase recycling rates and diversion from landfill as well as to optimize collection schedules.

2 - INTERCONNECTED DIGITAL SUITE

In an ever-evolving environment that is constantly confronted with new technologies and the need for more efficient and sustainable solutions profiting the end-users, the client and the environment at the same time, the digital transformation has become a necessity rather than an option. As per our experience, clients want solutions that are efficient, flexible, transparent and still simple in terms of visibility. To satisfy these needs, we have launched an enhanced digital suite during WETEX 2017 to offer a one-stop shop for smart Energy & Facilities Management services with customer-centric integrated solutions. Not only do we guarantee results, we also give our clients and their customers access to transparent and clear real-time data anywhere and anytime.

In 2018, Enova won the Silver Global FM Award for this seamlessly interconnected digital suite as basis for its digital transformation of the FM industry in the Middle East and beyond:
3 - DASHBOARDS & ANIMATIONS

Enova’s digital suite includes a series of different types of customizable dashboards powered by Hubgrade. They display real-time information on energy, water, and waste on computer monitors or television screens and thus enable a more transparent insight and a flexible analysis. The presentation of the data in a graphical, user-friendly form helps one visualize key performance indicators and trends at a glance. Enova has custom-built such a system for several Majid Al Futtaim assets as well as for the Sheraton Dubai Mall of the Emirates Hotel. Tailored to the hospitality sector, yet potentially applicable within many other industries, the program allows transparent real-time monitoring. Both technical staff and facility managers can use it to track operational KPIs to take immediate decisions to optimize performance and increase the guests’ well-being. It acts as a true catalyst for behavior changes, as it can be used to encourage guests to take active steps towards leading a more sustainable lifestyle.

In the context of energy performance contracts, it is estimated that one third of the savings could come from changes in customer behavior and therefore we also support our clients in sharing relevant and easy-to-understand information with their customers. Adapting figures and data to the non-technical audience helps raise awareness. We all consume energy and water, produce waste and generate CO2 emissions and the presentation of the data in a graphical, user-friendly format helps get everyone become an active player in the sustainability movement. Below are some snapshots:

Another awareness tool developed by Enova is the Sustainable Hotel Room animation. It showcases real-time consumption data and gives tips on how to reduce the same. This animation can be replicated for all end-user facing settings, such as malls, office buildings, and airports. The idea is to engage the end-user and motivate them to become active players in the pursuit of a decreased carbon footprint.
4- MOBILE APPLICATIONS

The Enova by Veolia smartphone app gives clients 24-hour access to real-time data on Energy & Facilities Management services through user-friendly features such as automatic status updates and instant task reporting. B2B2C functionalities are currently under development and will be rolled-out in 2019, allowing end-users to engage directly for the provision of spot services, such as handyman tasks, AC cleaning, etc.

A second app, Enova Smart Waste App, or Eswap, enables clients to quickly and efficiently check, track, and manage their waste management procedures. The app allows users to log refuse streams received from tenants, and sent back out for recycling, through barcode scanning. Data from Eswap is captured and then plotted into an interactive ‘Waste Dashboard’, which presents the numbers in a graphical, user-friendly format. The combination of both tools allows to optimize a facility’s recycling rates, thus improving the client’s environmental footprint and overall performance.

5- DRONE INSPECTIONS

In 2017, Enova invested in cutting-edge drones, equipped with high definition and thermal cameras. This was yet another step towards innovation, enhancing a wide range of activities related to the existing service offer.

These industrial drones capture the smallest details of an infrastructure, enabling a 360° vision of buildings and their assets. They are the ideal tool for technical and infrared thermography inspections of buildings and solar thermal and PV plants as they allow to detect energy losses, insulation deficiencies and fluid leaks in both the municipal, commercial and the industrial landscape.
FLIR recording management software allows us to analyze the images and create tailored reports and recommendations, regardless the type of facility, infrastructure or asset:

The main benefits provided by drone inspections are:

- Fast retrieval of accurate target data
- Reduced inspection cost and less downtime
- Lower exposure to risk
- Improved asset liability
1- LIVING OUR VALUE ‘INNOVATIVE TO BE SUSTAINABLE’

At Enova, ‘Innovative to be Sustainable’ is one of our key values. It is an integrated part of our everyday business and both our operational and HQ teams continuously strive for new ideas and methods to improve efficiency, add value to our existing offer and support clients in reducing their carbon footprint.

In healthy companies, employees are empowered to innovate and change. Our health index in 2017 was 81, which is in the top decile benchmarked with 800 companies worldwide. We believe that encouraging staff to get creative and involving them in strategic decisions leads to both continuous and consistent growth of individuals and the entire company.

Within the framework of our ‘Good Ideas’ campaign, employees can share best practices relevant to other sites and teams as well as innovative ideas and new solutions with the potential to be implemented. In 2018, we have received 17 ideas, that had a positive impact on our business, and we are looking optimistically into 2019 for more great contributions.

To foster teamwork and out-of-the-box strategic thinking, regular workshops are organized, bringing together creative thinkers of all departments, project types and countries. As such, our Digital Workshop in November 2018 in Dubai saw 31 Enovians from different sites, departments and hierarchical levels build Enova’s next digital roadmap through a collective intelligence process. The workshop consisted of client and employee insights, external inspiration, creative ideation challenges, and lots of brainstorming and discussion.

2- DESIGN THINKING TO SATISFY FUTURE CLIENT NEEDS

Fulfilling our customers’ requirements is of utmost importance to us. Enova is proud to go beyond being a simple service provider to sustaining and accelerating our clients’ growth. We make sure to provide the most comfortable and healthy environment to the facility's end-users, ensuring their well-being when spending time in the building and, thus, increasing the likelihood of them returning to the facility at a later stage.

In addition to yearly customer satisfaction surveys and customer service center insights as feedback mechanisms, our Enova by Veolia App goes one step further with instant task reporting and rating.

While market insights, client requirements and end-user feedback play a crucial role, Enova also pioneers in design thinking by ideating new solutions before clients realize they need them, or their customers might want them. One example could be Enova’s solution for increased Indoor Environmental Quality (IEQ). Instead of waiting for end-users to complain, we make sure the environment provided is pleasant and safe at all times. This is possible thanks to the constant automated monitoring and analysis of data provided by a range of installed meters and sensors and the consideration of additional factors, such as changes in weather conditions, occupancy levels, etc.
1- FOUR PILLARS

Over the past years, Enova’s teams have launched several new solutions and digital tools dedicated to increased efficiency and transparency. Keeping the momentum going and expanding our digitalization to all areas of the business, we have created our Digital Roadmap 2019-21, following the previously mentioned Digital Workshop in November 2018. This ambitious strategy is structured around four pillars, each containing several projects to be implemented in the near future.

The overall aim is to consider the different areas of our business on an equal level and build an integrated coherent digital solution through staff and client involvement, that will result in increased efficiency and performance and ultimately also in cost savings.

The four pillars build on each other, starting with increased efficiency and visibility internally at Enova, over to enhanced operational performance as well as optimized client and end-user interaction, up to completely new and enhanced service offerings adapted to market developments and changing customer needs:
2- ACHIEVEMENTS SO FAR

One of the key results from the workshop was the need for increased internal efficiency and transparency as well as the digitalization of internal processes with the ultimate goal of becoming completely paperless by 2021. Therefore, all internal measures have two main goals: streamlining Enova's internal processes for maximized efficiency and efficacy as well as increasing visibility and knowledge exchange, making use of synergies from both our MENA teams and our Veolia colleagues on a global level.

Along with several internal developments, we also conducted numerous projects together with our clients and partners:

- Indoor Air Quality pilot with Sheraton Dubai Mall of the Emirates:
  - More details: https://www.youtube.com/watch?v=rtVg210fayU
  - Winner of the Green Hotel of the Year RetrofitTech Award in 2018
- Intelligent and versatile cleaning solutions for different sites across the UAE, including unmanned or remotely operated equipment for floor and facade cleaning, as well as duct cleaning
- Chiller plant optimization as part of an EPC in several buildings
- Enabling our PDA's with IR thermal imaging capability
- Introducing IoT for predictive maintenance
- Leading the way with Hubgrade by introducing AI capabilities

3- OUTLOOK INTO THE FUTURE

As illustrated above, Enova is thinking big and out-of-the-box and will continue to pioneer the digital transformation of the Energy & Facilities Management sector in the MENA region and beyond. While many projects covering different areas and solutions are on the horizon, we will limit this outlook to one soon-to-be-implemented asset – the Digital Technician.

Through several technology-driven solutions and tools we anticipate capitalizing on a number of advantages that include:

- Improved intervention time
- Less equipment downtime
- Optimization of specialized resources
- Real-time information of on-field status
- Significant reduction of Health & Safety risks