Cognitive manufacturing & Industry 4.0

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IBM Innovation Center Ljubljana

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Most manufacturing executives are considering Industry 4.0 or Industrial IoT in their strategy.

But what does it mean?

We can say that it is more than just a catchy buzzword and is not just about the increasing connectivity of smaller and smaller components. The focal point is the data collected by physical things. With advanced data analytics, it optimizes the manufacturing processes. It is a new era of the industry!

There are already many interesting niche projects in progress aiming to solve different challenges to improve quality of products, increase yield, better manage manufacturing process, improve and automate supply chain, and many more. What makes it even more amazing is the convergence of two worlds which have never been connected before:

- Information Technology (IT) and

- Operational Technology (OT).

The bridging of digital and physical makes it possible to build smarter supply chains, manufacturing processes, and even end-to-end ecosystems.

According the McKinsey Global Institute, operations and equipment optimization in the factory setting can generate up to $3.7T of value in 2025 and IoT has a total potential economic impact of $3.9 trillion to $11.1 trillion a year by 2025. (1)

When PwC surveyed manufacturing companies on Industry 4.0 topic they found out that already one-third had already achieved advanced levels of integration and digitization, and more than 70 percent expected to be there by 2020. (2)

By integrating **cognitive computing into Industry 4.0 solutions**, organizations are moving from IoT vision and proof of concept to strategic deployments aimed at driving real transformation. The result is a new industrial era defined by factories, machines and parts capable of self-assessing, triggering actions and exchanging information with each other, and with the people who manufacture and maintain them. (3)

Cognitive manufacturing transforms manufacturing in three focused ways:

1. **Intelligent assets and equipment**: utilizing connected sensors, analytics, and cognitive capabilities to sense, communicate and self-diagnose issues to optimize performance and reduce unnecessary downtime
2. **Cognitive processes and operations**: analyzing a variety of information from workflows, context, process, and environment to drive quality, enhance operations and decision-making
3. **Smarter resources and optimization**: combining various forms of data from individuals, location, usage, and expertise with cognitive insight to optimize and enhance resources such as labor, workforce, and energy

Two major technologies are driving Industry 4.0

Internet of Things:

With the growth and adoption of the Internet of Things (IoT), factories are becoming more instrumented and interconnected. IoT provides the ability to gain valuable data of all the 'things' in our factories. From the condition of assets and equipment to quality and yield metrics, IoT brings live, real-time data of the manufacturing environment to our fingertips with embedded security. IoT enables linking automation manufacturing systems with IT, with ERP and other applications that benefit from additional real-time information. For new plants, or green field plants – a lot of new IoT technology can be embedded from the beginning; but for a brownfield site, many organizations are challenged to find a way to reduce the time and effort it takes to retrofit old sites and machines so they can be IoT enabled. IBM IoT platform and IBM partners with customized IoT sensors are bringing chance also for brownfield sites with solutions that enable for example environment and conditional monitoring and electronic work orders.

IoT has the potential to create real business value and transform industries. While the insights gained from IoT data drive revenue streams and forge lasting customer relationships, businesses need to protect and secure their entire IoT environment. The Watson IoT Platform is built on the highest standards of security internally and has been audited by a third-party firm to ensure compliance specifically with ISO 27001. The platform extends the same grade of security to applications that fully leverage available security features.

Watson IoT Platform is secure by design and all customers have access to robust security features designed to protect IoT Devices, Applications and Data. At the same time, not all IoT solutions are the same; some have unique security needs or specific sensitivities that require careful analysis, planning and preparation.

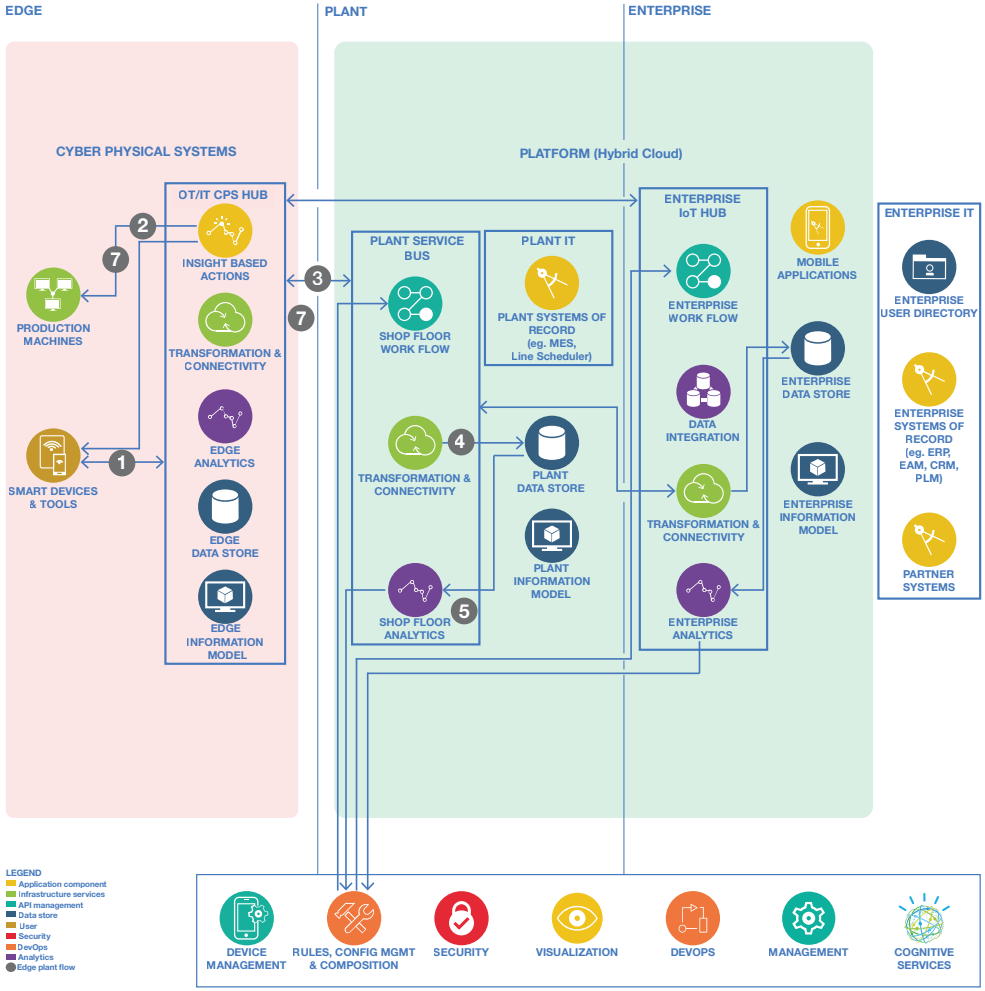
IBM is introducing new Advanced Security IoT service capabilities that extend Watson IoT Platform with Threat Intelligence for IoT. Customers may now visualize critical risks in the IoT landscape and create policy-driven mitigation actions to automate operational responses for millions of devices.

Analytics:

Data, and more importantly analytics, are changing the way we see our machines, our processes and our operations. Analytics can identify patterns in the data, model behaviors of equipment, and predict failures based on a variety of variables that exist in the manufacturing setting. When you advance the analytics with the Watson cognitive technology, then such solutions help us dealing with large amount of data coming from IoT sensors and can help us better understand what is happening, how and when certain conditions impact processes and what we need to do to improve. Cognitive manufacturing can drive key productivity improvements in quality, efficiency, and reliability of the manufacturing environment and in B2B, optimizing and automating supply chain and cognitive self-service portals. (4)

Typical flow of information from the edge through the plant:

1. In a production environment, production events are communicated from the production machines, smart tools, and devices via protocols such as OPC, OPC UA, MQTT, or TCP/IP or via field bus protocols such as MODBUS or ProfiNet. Data sent to the equipment (such as setpoint adjustments and commands) uses the same protocols.
2. At the Edge, analytics is used to filter and analyze or score production conditions as part of the CPS (Cyber Physical System) feedback loop. This results in some data being forwarded to the plant or enterprise and in setpoint adjustments or commands being returned to the production equipment or tools.
3. Data that is exchanged between the Edge and the Plant (or Enterprise) is communicated via shop floor IT protocols, such as OPC UA or MQTT, and is typically represented as JSON or XML. Field bus protocols are not used at this level; those are "hidden" by the Edge.
4. At the Plant level, in-factory data collection, normalization, and cleansing to support analytics (and production visibility) as part of the shop floor analytics loop can result in actions being triggered. Examples of actions include execution of a workflow or feedback to the production cell. At the enterprise level, the same thing takes place but the scope expands to include factories, systems, and locations.
5. The information model (based on standards such as IS-95) is used in combination with cleansed, collected data to support production analytics and rules aimed at determining required actions for this event (or as a result of a stream of events).
6. If required, Plant (or Enterprise) level workflow is triggered. This workflow is "composed" to use Plant (or Enterprise) IT system of record services or newly constructed services, in combination with platform services.
7. As a result of the insights gained from analytics or a triggered action, setpoint adjustments or commands are passed back to the production cell (via the Edge) to dynamically reconfigure the manufacturing process. At the Enterprise, this may result in cross-plant schedule changes due to the broader scope of the problem space.



IoT enable smart manufacturing

Industry 4.0 manufacturing is all about the increasing connectivity of smaller and smaller components. It uses the data collected by physical things, either built products out in the real world, or components within a machine on the production line, to impact how these things themselves are manufactured. The more information that can be gathered by these objects, the more effective the manufacturing process can become.

The idea is that a feedback loop is created between physical things and the digital world. The things themselves can tell us how they are being used, or when they need repair – giving manufacturers information that can help optimize every stage of the production process, from supply, development and creation, improving quality and reduce yield, saving time and money.

Cognitive Industry 4.0 informs what we should be making

The final part of the process – selling the completed product – is also the area to consider. Analyzing retail information can give real-time insight into which products or product components sell best. The showroom itself is another goldmine of information about customer preferences. Sensors and video footage within the showroom demo areas can track where visitors tend to linger, showing which models are most appealing to these potential buyers. And you can also feed social media sentiment into the retail analytics to provide a broader picture of prospective new customer. (5)

Industry 4.0 IT Architecture and data flow

Devices and production machines associated with production operations are typically managed by existing DCS/SCADA systems, which can be integrated by industry protocols such as Profibus, OPC, and OPC-UA. Some newer equipment embeds technology that allows it to communicate with the outside world through IT protocols.

At the Edge, gateways are typically used to integrate with the existing systems and equipment. They also are capable of running Edge analytics, applying rules, and even storing data locally to support operations at the Edge. The Edge may completely handle an equipment interaction with no involvement of the Plant or Enterprise layers.

In other cases, the information from the Edge flows through the Plant or the Enterprise, or through both, where Plant and Enterprise analytics will be performed in a similar way. The Edge and Plant must be able to operate as a stand-alone unit from the Enterprise, so some capabilities of the platform must be in both the Plant and the Enterprise.

Information from intelligent devices and production machines can be communicated up through the layers (with appropriate filtering and aggregation), but information from the devices and machines can be communicated directly to the Plant or Enterprise layers if the devices and machines have that capability (for example, through embedded technology).

Data, and more importantly analytics, are changing the way we see our machines, our processes and our operations.

Data volume will only grow larger.

Functional requirements

- Vertical and horizontal integration.
- Lifecycle integration and digital twin.
- Universal connectivity between processes, systems, machines, and people.
- Intelligent worker assistance.
- Historical data collection and (predictive) analytics.
- Flexible, business-oriented configuration at all levels, including shop floor, integration, and edge. (6)

IBM Blockchain is new disruptive technology for Industry 4.0

By implementing IBM Blockchain, manufacturers can reduce product recalls by sharing production logs with original equipment manufacturers (OEMs) and regulators. Businesses of all types can more closely manage the flow of goods and related payments with greater speed and less risk.

Challenge: To allow every participant on a supply chain network to input and track sourcing of raw materials, record parts manufacturing telemetry, track provenance of goods through shipping, and maintain immutable records of all aspects of the production and storage of a finished good through to sale and afterwards.

Solution: The Blockchain acts as a distributed, single source of shared truth. Smart contracts can be leveraged to update the state of transaction, but also be shared amongst parties. Smart contracts can also trigger events that can be used to indicate the success or failure of a transaction.

Benefits:

- Verifiable, preventing any party from altering or challenging the legitimacy of the information being exchanged.
- Efficiencies through greater transparency to complex global supply chains.
- Allow consumers to make informed purchases.
- Governments can quickly and easily request reliable information from across the supply chain. (7)

Transform your business with connected manufacturing

As more factories and equipment are instrumented for the Internet of Things (IoT), data volume will only grow larger and computing must become more cognitive to properly process, analyze and optimize the information.

Utilizing the power of cognitive capabilities, IoT for manufacturing can help harness and mine this influx of information—making your business more cognitive through effective processing, analysis and operational optimization.

With IoT for manufacturing, you can:

- Minimize downtime and optimize asset and equipment performance.
- Improve quality and yield from design through support.
- Optimize the resources engaged around production. (8)

IBM Business Partners working with IBM Innovation Center in Ljubljana are using mentioned technologies to build Industry 4.0 solutions for SME manufacturing companies to help them in the journey to Industry 4.0 in the areas where it has the biggest impact to generate additional revenue or improve efficiency and reduce costs.

Source:

(1) http://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/the-internet-of-things-the-value-of-digitizing-the-physical-world
(2) http://www.strategy-business.com/article/A-Strategists-Guide-to-Industry-4.0?gko=7c4cf
(3) https://www.ibm.com/blogs/internet-of-things/cognitive-manufacturing/
(4) https://www.ibm.com/blogs/internet-of-things/manufacturing-industry-4-0/
(5) https://www.ibm.com/blogs/internet-of-things/industry-4-0/
(6) https://www.ibm.com/devops/method/content/architecture/iotArchitecture#industrie_40
(7) https://www.ibm.com/blockchain/what_can_blockchain_do_for_you.html
(8) http://www.ibm.com/internet-of-things/iot-solutions/connected-manufacturing/

Solution name

Alcad Risk Management System

Functional details

Alcad Risk Management System controls complex business processes and helps manufacturers to integrate purchasing and sales items with all the hedging activities of the London Metal Exchange (LME) market. Solution are able to handle the risk of metal price volatility and this is the best basis for further improvements and business developments.

Risk Management System is easily integrating with customer existing ERP system. It combines the power of the Alcloud, Alcad private cloud platform and is accessible as a SaaS.

Business problem

Many manufacturers recognize that if they want to be successful in the metal industry, it is not enough just to be good at buying raw materials and selling products to customers. They have to combine those basic skills with the proper use of futures, hedging and option tools and other financial instruments that are available through the London Metal Exchange (LME).

Return on investment

Alcad Risk Management System return on investment is between six and twelve months.

Competitive advantage

Due to constant new pressures in streamlining business it makes sense to manage operational risk and consequently reduce costs. Alcad Risk Management System are available to reduce the potential for losses:

- **neutralizing effects**, resulting from inadequate or failed internal processes and procedures;
- **eliminating the possibility of human error**, in both technical systems, and due to external causes;
- **prompt and quality information** for controlling, strategic function and organization.

Industries

Alcad Risk Management System has been designed for manufacturing companies in metal industry.

Solution areas

Every organization faces different risks as a result of past decisions and the current state of the business. Alcloud services for Risk Management System are based on the use of sophisticated reference model, which allows to quickly prepare a solution for your business requirements.

Customer size, type

Manufacturers of all sized operating in a high-dynamic supply chain.

Solution link & contact info

Alcad d.o.o.
alcad@alcad.si
www.alcad.si

Solution name

Data base security and full monitoring for Industry

Functional details

Data base monitoring solution that provides full monitoring and security of all records that are in database. Solutions is based on IBM Guardium platform, IBM Guardium platform provides sustainable and very light platform for DB monitoring. We are able to cover all different types of databases DB2, Oracle, Microsoft SQL, Hadoop, SCADA Flat file DB, and all different types of OS platform Windows, RHEL, Oracle Linux, AIX, Linux Gentoo and etc.

Business problem

We are providing full monitoring for security and compliance of your data base. We are able to provide key information's for every organization. With our solutions you will have answers on key questions about data:

- Who is looking my data?
- How?
- When?
- Where?
- What?

We give answers on these questions, even if you have heterogeneous IT platform, without any big impact on performance of your system.

Return on investment

When security is subject, we can say that you get ROI immediately, because with our solution your DB is secure. Not only that we will provide additional security for your data, but we speed up compliance and regulation certification by two times with our out of the box reports.

Competitive advantage

Our long experience and expertise give us additional advantage to provide you very fast complete auditing and security of your data base. We are confident to say that our solution is unique in DB monitoring and security in heterogeneous organizations.

Industries

We have successful references in next industries:

- Energy sector, SCADA systems
- Financial sector, we provide full GDPR compliance report
- Telco sector
- Manufacturing industry

Solution areas

- Security, CSO, CISO
- Compliance and regulations, PCI, Sox, GDPR, Basel.

Customer size, type

Mid-size business and enterprise business.

Solution link & contact info

ALEM Sistem d.o.o.
www.alemsistem.ba
info@alemsistem.ba

Solution name

Mobile E-Production Process

Functional details

A-Soft's Mobile E-Production Process/Live Data Insight enables you to track and monitor your production/business processes in Real Time. It allows a paper-free process flow and a faster production time. With the use of Mobile devices you can support and access any process.

With full ERP integration it also allows to better control a process from input to output.

Business problem

Our customer is a leading aluminum cork manufacturer and they needed a simpler and more efficient manufacturing process support. They struggled with lots of paper documentation, lack of data and limited data analysis.

Together we managed to address all major pain points and made a solution which is flexible, easy to control, scalable and most importantly user friendly.

With constant customer engagement we delivered our solution with soft implementation, with no downtime and provided the customer with continuous training.

Return on investment

Positive impact on manufacturing process was immediate and it really allowed a better insight in production, better planning and analysis.

Workers save time by better planning and less operational tasks, so they can focus on main production process.

Leadership has a better production insight, raw material planning and advanced analytics.

Competitive advantage

Paper Free Business Process

Flexibility

Full ERP Integration

No or minor downtime during implementation

Advanced Analytics

Industries

Production

Retail

Manufacturing

Government

Banking Insurance

Solution areas

Manufacturing process, workflow process, package process, any linear process ...

Customer size, type

Companies of all sizes which need to support their linear business processes

Solution link & contact info

A-Soft, d. o. o.
Ižanska cesta 303
1108 Ljubljana
SLOVENIJA

www.a-soft.si

Solution name

Logistics&Transport Management Solutions

Functional details

A-Soft's Logistics&Transport Management Solutions contains several individual solutions. The number of implemented solutions depends on the customer needs. As a whole it enables a customer to fully manage its internal and external transport, logistics, warehousing and SCM processes.

Modular development allows us to suit the need of every company.

Business problem

Every company needs to manage their internal and external logistical processes.

We provide:

- Customer management advanced solution
- Management of material and warehouse processes
- Management of transport processes
- Transport pathways optimization (mathematical optimization)
- Dispatch distribution management
- E-freight management system
- Data exchange interface according to GS-1 standards

Return on investment

Depends on the complexity of the client and the volume of investment. The customer feels the positive effects of the solution immediately with a better insight into the bottlenecks of logistics and other processes

Competitive advantage

Modular and flexible development

System connectivity

System upgrade

Full ERP Integration

No or minor downtime during implementation

Industries

Logistics	Production
Transport	Retail
SCM	Distribution

Solution areas

Logistics, Transportation, Supply Chain Management, Packaging, Storage, Warehouse, Purchasing, Distribution, Shiping

Customer size, type

Companies of all sizes which have a demand for better management of transport, logistics and SCM processes.

Solution link & contact info

A-Soft, d. o. o.
Ižanska cesta 303
1108 Ljubljana
SLOVENIJA

www.a-soft.si

Solution name

Bitgear's Industrial Security Monitoring Solution

Functional details

Bitgear's industrial security monitoring solution is based on the maintenance-free, easy to install, battery powered IoT devices. Devices are installed in the infrastructural narrow entrances and small spaces, continuously detecting and reporting breach and presence at the protected asset.

The solution relies upon LoRa radio network and LoRaWAN, with innovative sensors fusion providing 10+ years of battery life. The devices are designed for harsh environments, with custom antenna design providing minimum range of ~1km in the application of telecom manhole monitoring in dense urban areas.

Client Web / Mobile application handles the physical installation process and devices provisioning, provides GIS-based asset monitoring and alarming, and interfaces with third parties (e.g. security companies).

Bitgear is a provider of innovative IoT/M2M solutions for more connected and more sophisticated world. By leveraging our connected systems design services base and comprehensive range of in-house reference designs, we design, produce and deploy custom IIoT systems in a wide range of verticals.

Business problem

There are many use cases in the industry and infrastructure where access to sensitive places like manholes, pipelines, or important subsystems, should be monitored and protected in real time. The new generation of battery powered IIoT devices, featured by low power consumption and high sensitivity, enables easy installation and virtually no maintenance, reducing the initial costs of custom system and ongoing operating costs.

Return on investment

The illustrative use case is an underground telecom cabling infrastructure. Controlling manholes entrance access and presence would reduce stealing and damaging of copper and optical cables. Savings from reducing direct costs of materials and repairs only would provide short term RoI, enabling indirect gains through improved customers experience and increased value of the incumbent company.

Competitive advantage

Bitgear provides customers of all sizes with the cost effective IIoT solutions, which can be rapidly personalized and certified to perfectly fit the operating environments and workflows. We are one-stop-shop for streamlined creation and deployment of niche IIoT solutions.

Industries

Factories
Mining, Oil and Gas
Transportation
Telecoms
Energy and Utilities
Agriculture

Solution areas

Access and presence monitoring

Customer size, type

All

Solution link & contact info

Bitgear d.o.o.
sales@bitgear.rs

www.bitgear.com

Bitgear is Deloitte Technology
Fast50 CEE company, based in Belgrade.

Solution name

Industrial IOT system for energy efficiency

Functional details

An IOT system composed by 2 components:

- A hardware device, designed modular as hardware and firmware, able to gather data from sensors (multiple types, vendor independent), process the data and communicate via up to 11 telecom systems (mobile or fix, standard or special); there are multiple device types, differentiated by features requested; those are installed in customer site
- A software platform, cloud or on-premises, monetized as SaaS; able to manage completely the data from devices, able to run independently or on top of IBM Watson IOT platform, running all standard data management functions

Business problem

High churn paid by the heavy energy consumers (as factories, data centers, retail spaces, office buildings) can be reduced by invasive workarounds (as equipment refurbishment / renewing / redeployment) or smart noninvasive methods (as BOX2M solution, based on big data).

Return on investment

Average in the first 6 months or less. It depends by customer complexity (type and scale of energy infrastructure), price of energy on the local market, status and ways of working of energy trade into that market, people skills and expertise (involved into renegotiation process with energy supplier).

Competitive advantage

Value against price; value from day 1; gathered data is a value by itself, could being used afterwards in other processes that could contribute to CAPEX & OPEX decrease; non-invasive installation; solution opened to integration with 3PP systems; solution is metrology hardware independent (can work with multiple sensing vendors); solution stands on metrological certified equipment; once solution running, customer can negotiate and control better any energy supplier contracted and any factory gear vendor; instant visibility to infrastructure status; instant energy fraud detection or QoS deviation.

On top of everything: energy churn reduced to up to 10%.

Industries

Any industry consuming energy (factory, workshop, lab, industrial park, data centers).

Any retail location or building hosting multiple tenants.

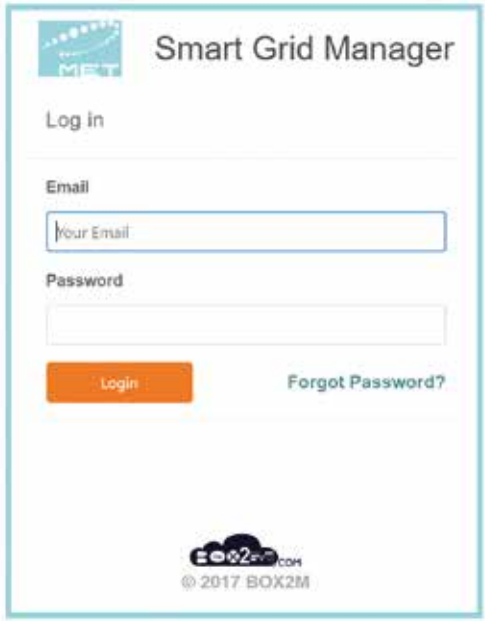
Any multiple locations business (supermarket / shop / national authority or entity / campus).

Solution areas

Energy.

Customer size, type

Any commercial (public / private) multiple locations or a single location with a high energy consumption.



Solution link & contact info

http://box2m.com/en/main-concept

office@box2m.com

Disclaimer: it's not a consuming product so we do not use to share too much on web. Based on customer demands and feedback, based also on an audit done by us free of charge, we will decide the level of customization, complexity and scale of solution.

Solution name

C-Stock

Functional details

C-Stock is a B2B e-commerce solution for companies that frequently supply goods and staples to their clients.

Built on top of the powerful IBM WebSphere Commerce® platform it automates the B2B selling process, from buyer-side ordering to contract management and provides both supplier and customer with better control over consumption.

Business Problem

Usually clients only think about staples like office supplies, food supplies, laboratory equipment and auto parts, to name a few, only if they run out of them. They are simply a commodity that is expected to always be within reach. And clients get frustrated if this is not the case, even if they forgot to order them. Running out of supplies can even stop their operations so they are forced to require an immediate delivery, which results in extra delivery costs on the client's and/or on the supplier's side.

Managing decentralized supplies through C-stock means that clients will never run out of stock again. Every customer manages their personalized list of supplies and reports the monthly consumption, which is the basis for automatic invoicing.

Return on investment

Leveraging C-stock, situations when customers run out of urgently needed products are dramatically reduced (80 % or more), so are the urgent delivery costs. Furthermore, suppliers save on customer service at the same time.

Competitive advantage

When companies choose a vendor for their long-term supply operations the flexibility and delivery timing are important factors that influence the final decision. Leveraging the Creatim's C-stock solution the supply-time is zero which puts the vendor in a pole position when bidding for a new contract.

Taking urgent delivery costs out of the supply equation contributes to the supplier's overall price performance and the client's satisfaction as well.

Solution areas

B2B commerce, inventory and delivery management

Customer size, type

Manufacturers and wholesale retailers of all sizes selling fast-consumption staples like office supplies, food supplies, laboratory equipment, electrical and maintenance-related supplies auto parts, etc.

Solution link

C-stock page:
www.creatim.com/en/products/c-stock
Watch the ExtraLux case study:
www.youtube.com/watch?v=ghgWyuYYFj8

Contact info
Creatim Rzisnik Perc
hello@creatim.com
www.creatim.com

Solution name

FCS EEM Facility Care System - Energy and environmental monitoring

Functional details

FCS EEM is a powerful, easy to use web-based solution that allows users in enterprises, institutions and facilities to monitor the consumption of different types of energy, revealing the reasons for the possible increased consumption and thus the basis for reducing consumption and costs. Consumption of electric energy, water, heating, gas is most commonly monitored and analyzed.

At the same time, users can monitor parameters of living and outdoor climate conditions. CO_2, temperature, humidity, noise, illumination and different gases are most commonly monitored.

Generally speaking, **FCS EEM** can measure any variables with sensors of any manufacturer.

Business problem

When monitoring energy consumption and other parameters in buildings or other locations we usually have to face with various systems controllers and devices that allow us access to data via various protocols. When performing measurements, we use different sensors from different manufacturers. Automatic capture of data from such systems controller devices and sensors usually presents a technical problem, but above all a great cost.

Many manufacturers of software for data capture offer systems that are limited to a particular type of devices or equipment, particular manufacturer or protocols for data exchange.

Return on investment

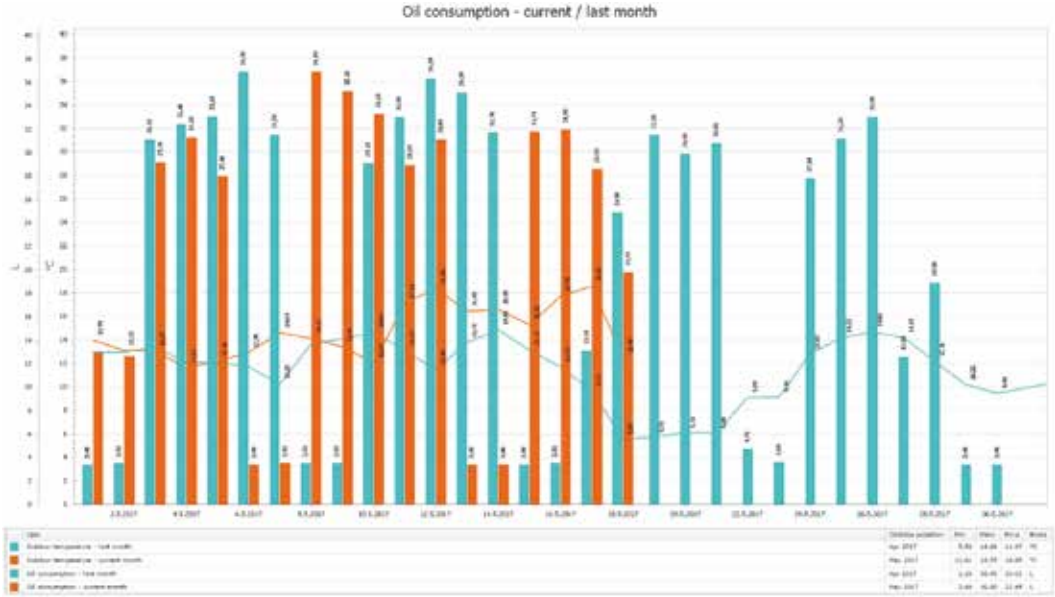
FCS EEM enables easy and fast detection of causes for excessive energy consumption or deterioration of living conditions. It informs users about exceeding the set limit values of individual measured variables through text messages and e-mails. Users can easily create various types of graphs, analysis and reports that help them with planning adequate organizational, technical and investment measures for reducing energy consumption and improving the quality of living conditions.

All of this, saves users time and money. The investment in **FCS EEM** is usually returned within a few months.

Competitive advantage

FCS EEM is a web-based solution which allows easy access and management using a computer, tablet or smartphone. Benefits for users are:

- automatic data capture,
- user is not limited to the equipment of a particular manufacturer,
- storage of the data which allows further processing,
- monitoring data in real time,
- adapt to user's needs and requirements,
- ability to monitor a variety of variables,
- display of data a show panel (TV, monitor, …),
- accessible anywhere, anytime,
- security against data loss,
- automatic updates,
- multilingual user interface.



Industries

The solution can be used in various branches of industry, wherever there is a need to measure and analyze any variables depending on the sensors that are available.

Solution areas

FCS EEM is meant for all companies and organizations who want to reduce energy consumption and improve the quality of living conditions. It's most commonly used in facilities such as: municipalities, schools, kindergartens, halls, gyms, libraries, galleries and other exhibition halls, health centers, hospitals, homes for the elderly, shopping centers, business and residential, industrial and technological facilities.

Customer size, type

The solution is suitable for micro, small, medium and large enterprises as well as private facilities.

Solution link & contact info

ERLING d.o.o.
Marinovševa cesta 7
1000 Ljubljana, SI - Slovenija
+386 1 512 74 60
mail@erling.si
www.erling.si

Solution name

eGenDoc

Genis
environmentally friendly information solutions

Functional details

Document capture, processing and storage of procurement documentation for comprehensive digitalisation of procurement process. The procurement office can link to business information systems (ERP, CRM, SCM ...) and electronic exchange services (EDI, e-mail ...), thereby ensuring procurement operations run with maximum efficiency!

Module e-Office

Centralised management system for paperless procurement documentation.

- Automated digital capture and identification of all types of received documents (paper, PDF, XML): invoices, orders, contracts, delivery notes, acquisitions, shipping documentation, specifications, certification ...
- Document classification and allocation of meta-data.
- Assign documents to working procedures such as certification of received invoices.
- Attaching additional documents.
- Automated data and document capture from upstream applications (eg. purchase requests for supplier orders ...).
- Management of purchasing contracts and annexes.
- Manage procurement folders according to service level (contracts/ purchase orders/ acquisitions / invoices).
- Document archiving.
- Access to electronic documents from other applications (ERP, CRM ...).
- Audit tracking.

Module e-Invoices

Processing of received invoices from arrival at the company to book-keeping.

- Acquisition of received invoices from e-Office.
- Automated data capture and ERP coding system.
- Integration with other purchasing documents in e-Office (contracts, orders, acquisitions ...).
- Adding attachments and links.
- Unified account inspection and certification process.
- Automated multi-level chain of approval depending on account type, cost type and extent, cost drivers and sign-off responsibilities.
- Invoice rejection and purging process.
- Distribution according to tax level.
- Distribution by cost centre.
- Automatic journal entry preparation and transfer into ERP.
- Replacement/substitution management.
- Metadata search.
- Predefined views (suppliers, cost types and cost centres ...).
- Generate and print reports (pdf, xls ...).

Business problem

- High operating cost
- Lowering rebates because of late, delayed or missed payments
- Delay in supply because of payment issues
- Time consuming administrative task in the procurement and financial departments
- High business risks from lack of costs origin control and transparency and traceability in the procurement process

- Lack of in time cost data: too long preparation of balance sheets and reports for management, delaying preparation of VAT balance sheet
- Lack of quality information for supplier research
- Risk of human mistakes because of manual work (paper documents, e-mail or telephone communication, multiple data entries, not integrated processes)
- Misplacing or loosing documents
- Slow document retrieving and searching for information from contracts, purchase orders and invoices

Return on investment

ROI 6-9 months

- Increase purchasing efficiency and lower the operating costs of procurement services.
- Simplify the cost of administration.
- Better liquidity (cash flow) management .
- Speed up information gathering for balance sheets, business reports, value analysis and pricing negotiations.
- Speed up the invoice management process for in time or early payments.
- Obtain valuable research and supplier selection data.
- Improve the management and execution of contracts.
- Lower business, financial and regulatory risks.

Competitive advantage

- Industry standard solutions and best practices
- Proven end to end process digitalization
- Fast implementation and deployment
- Fully customizable processes
- Easy integration with global ERP systems (SAP, Microsoft Dynamics, Infor/Baan, Oracle E-Business Suite, AS400 ..)
- Reliable, available and scalable enterprise class solution
- High performance for demanding business environments

Industries

Manufacturing, Utilities, Hospitality, Retail, Distribution, Logistics, Banking and Finance, Construction, Real estate

Solution areas

digital/paperless business, procurement, contracting, accounting

Customer size, type

Large and medium-sized business (private companies, local and international business groups)

Solution link & contact info

ibm.biz/eGenDoc

Solution name

AgroLIFE Platform for Industry 4.0

Functional details

Modern Agriculture is part of Industry 4.0, fully dependable of real time services, information and analysis

AgroLIFE is a software platform dedicated to Agri food business.

Platform is cloud solution, aimed to all three verticals that exist in this sector:

1. Enterprise Companies: We serve big agriculture holdings
2. Government sector: We serve states and state affiliates
3. TelCo sector and retail: We serve individual households trough TelCo operators

Platform includes multi functional mobile Application and IoT interface which allow connecting and using variety of different services and equipment.

AgroLIFE Platform integrates various IBM Bluemix services: Data center, Cloudant, Object storage, Watson business analytics, IoT interface, Weather.

Business problem

AgriTech chain includes a number of participants which are all connected and mutually dependent.

AgroLIFE Platform integrates all stakeholders and provides specific tailor made services to all customer segments.

Enterprise Companies are able to integrate all business and work processes, GIS maps, GPS , various IoT and sensor devices in to one system, also to use powerful planning and analyst tools.

Government and government affiliates are receiving set of modules which are completely covering all needs in managing Agriculture.

Individual households receives set of advanced modules and services adopted to theirs needs.

Portfolio of more than 18.000 active Clients covers and connect users from all mentioned verticals.

Return on investment

Each user of the platform has significant benefits and fast ROI.

- Households are platform users according to the SaaS model and they have momentary ROI.
- Telecom operators are by the profit-sharing plan
- Banks have ROI after six months.

Competitive advantage

Agrolife Is globally unique platform which includes all stakeholders and each of them have significant benefits.

- Enterprise and households have lower costs and higher incomes.
- Governments gain valuable tool for advancing agriculture.
- Telecom operators gain access to agro market.
- Banks and insurance companies have the distribution of services.

Industries

- Agriculture,
- Government,
- Telecom operators,
- Banking Insurance,
- Banking loans and microfinancing,
- Retail.

Solution areas

- IoT platform enables users to get the data right from the field.
- AgroLIFE Business Intelligence is a enterprise reporting feature.
- GPS service turns mobile phone into the mobile receiver and intelligent agro hotspot
- AgroLIFE Marketplace is a game-changing crowd sourcing platform for buying and selling items
- AgroLIFE Notes is crowd sourcing solution for disease, fire, pests and theaft tracking
- Finacial services supported by platform

Customer size, type

- Governments – Ministry of Agriculture,
- Telecom operators,
- Households,
- Agriculture enterprises.

Solution link & contact info

www.greensoft.co/

office@greensoft.co

Solution name

Standard ERP

Functional Details

Full-scale business management software accommodating the needs of modern companies — from traditional ERP, SCM and CRM to a wide range of industry specific solutions, all fully integrated with corresponding system components.

Standard ERP is an open platform with the ability to receive raw data from external machines, sensors and devices to quickly process for higher-value context information. Standard ERP offers unrivaled flexibility to work from anywhere in a multi-user environment while securely storing all data in the cloud.

Business Problem

Businesses often find themselves entrenched in a complicated and tedious routine when interfacing between various, third-party business management applications. Such a practice requires data entry into multiple systems that do not correspond with each other and poses not only a security risk, but causes inconsistencies in business processes and information as well. Business owners are then faced with incomplete reports and inaccurate analyses.

Return on Investment

Standard ERP is delivered with the SaaS model allowing for a significantly lower total cost of ownership when compared to competing products. HansaWorld's cloud hosting utilizes the best hardware while ensuring users have the latest software at a fixed monthly rate.

Competitive Advantage

As a fully integrated system, Standard ERP offers a range of comprehensive functionality such as interactive CRM, e-commerce, consolidation, business intelligence, cloud services and a wide selection of industry-specific verticals. The entire system can be used with all major operating systems on almost any device.

Industries

Standard ERP accommodates a variety of industries, with carefully designed verticals, from retail, rental, restaurants and hospitality to production, distribution and project management.

Solution Areas

Standard ERP streamlines business processes and enhances productivity with ERP and CRM solutions. HansaWorld's product line supports a diversity of industries with the ability to flexibly tailor the system on almost any device.

Customer size, type

Business productivity software for midsize and large companies.

Solution link & contact info

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Solution name

KopaEAM

Functional details

KopaEAM, on top of IBM™ Maximo®, is an integrated asset management solution with an expert implementation of assets maintenance IT business processes. It provides a clear insight into all of business assets, their condition and work processes. Maximizing productivity and optimizing assets life cycles guarantees better performance for any company.

Features:

- Informatization of typical indicators and processes (asset management, materials and contract management, work management)
- Integrations with ERP, DMS and Production Machines Monitoring Systems
- Automatically creating work orders in case of machines downtimes
- Covers all kind of work assets, locations and related processes in maintenance
- Covers all types of maintenance strategies (curative, preventive, predictive)

Business problem

The KopaEAM Solution solves business problems as high costs of assets management, unexpected machines failures, lack of the insight into the situation of production assets, shortage/excess of spare parts stocks and consumables, unpunctual supply of spare parts and non-optimal assets usage.

Return on investment

KopaEAM solution is the answer to the question how to optimise maintenance processes on assets with the lowest possible costs and minimal impact on other business processes. It provides higher availability of production assets, decreased load of operators and higher business performance so the following can be achieved:

- Better work performance: increase from 10% to 20%
- Increased assets availability: from 3% to 10%
- Decrease of investment for the new equipment: from 3% to 5%
- Better usage of warranties: from 10% to 50%
- Decrease of storage costs: up to 20%
- Decrease of costs for material and spare parts: from 5% to 10%
- Decrease of purchase costs: from 10% to 40%

Competitive advantage

With KopaEAM you get the solution which implementation is performed by professionals with more than 20 years of experience in the field of maintenance in different types of industries.

- The Knowledge Base of successful implementation based on best practices in various industries from more than 20 years of experience in the EAM field
- Efficient monitoring of all key processes in maintenance and asset management
- Reduced cost of maintenance and less paper work
- Business decisions based on data and analyses reducing guess-work of managing persons

Industries

KopaEAM solution has proved as best in different types of industries: automotive, food production, power plants, mines, electro distribution, petro-chemical and others.

Solution areas

Enterprise Asset Management

Customer size, type

Most of companies that maintain their assets.

Companies with number of employees between 50 and several thousands.

Solution link & contact info

www.kopa.si/maximo.aspx

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program manager for EAM

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Solution name

L-TEK IoT solutions

Your challenges our solutions

Business problem and Solution Areas

L-Tek IoT is a family of open-source development boards that make it easy to implement custom IoT applications with support for a range of connectivity protocols.

L-Tek IoT is designed by a specialised and experienced R&D team. We are the architects of the L-Tek IoT family of products that offer the best SMART IoT monitoring and controlling solutions on the market. All the L-Tek IoT solutions can be modified and optimised to match the needs of different applications.

Industry

The primary driver for the growth in IoT usage is the broader adoption and deployment of sensors and smart devices. Sensors are smaller and cheaper, and they require less power and have more computing capacity. Pair that explosion of data generation with the commodity storage options that the cloud provides and you have all of the ingredients necessary for businesses to drive tremendous value from insights that analysis of that data can provide.

Another change driving traction is the availability of technology and analytical methods that can be applied to streaming data from the sensors, i.e. data in motion. You now have the option to push decision support and performance monitoring to the edge, the source of the data. This provides expanded options for businesses to monetise the IoT.

With all this capability at hand, additional industries are starting to investigate opportunities for deploying sensors to better manage the performance of processes or machinery, as well as to track consumers' behaviour and anticipate their needs and intentions.

Competitive advantage

The opportunity to leverage IoT as a competitive advantage is here right now, so take advantage of it. If you think IoT is not applicable to your environment, you need to think harder. There are opportunities across all industries. Slow progress by others can create opportunities for your business today. But if you're not working within an IoT framework, you may fall behind quickly.

Taking advantage of IoT requires different ways of thinking – about how data are used, how much data we can handle, how fast we can process and analyse that data and ultimately where and how decisions are made. This is not just a chance to better inform and automate business processes; it is a game-changing surge! L-Tek can support you during the whole process!

Return on investment and customer size

We aim to transform companies by opening up new ways of achieving competitiveness. We seek future solutions that will see the intersection of people, data and intelligent machines exerting far-reaching impacts on efficiency, productivity and safety.

Manufacturing industries, especially high-volume facilities, leverage sensor data and advanced analytics to increase yield. Early identification of process or product variance allows early correction, resulting in reduced defects and increased efficiency which directly influence on the company revenue and bottom line!

Solution link & contact info

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Sales&Marketing
Rok Šinkovec
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Optimize your conditions and lower your cost level by implementing L-TEK IoT SMART Monitoring and Control system!

Solution name

MOEH - Manufacturing Operational Excellence Hub

Powered by Advanced Analytics

LOGIX

Functional details

As manufacturers have developed in time they applied several more or less sophisticated information systems which were handling certain steps or equipment in production processes more or less independently. As manufacturers are eager to improve their efficiency in terms of performance, output, quality, logistics etc. it is necessary for them to overcome challenges in manufacturing end-to-end process with existing defragmented systems.

Service Data Bus is able to interconnect large volumes of data generated in several independent manufacturing systems (PLC, SCADA, MES, several satellite devices, ERP, etc.)

Logical Data layer should be applied considering priorities for the business and its potentials. Priorities depend largely on identified opportunities, improvement potential and business goals in certain production process. It can support …

- Performance Overview and Control
- Production KPIs' Dashboard
- Process Control and Operations Dashboard
- Quality Overview and Control (with predictive assets - models)
- Maintenance Overview and Control (with predictive assets – models) and Equipment Asset Management
- Logistics with Supply Chain and Production Planning and Optimization (Macro to micro operations scheduler).

Analytics provides visibility in overall performance and particular production steps. It gives management, technical stuff and operations stuff ability to control and predict processes and adjust operations to become more efficient.

Business problem

It is normal that manufacturing companies have had hard times to leverage data in existing common defragmented systems. As manufacturing companies are eager to improve in order to increase OEE, production output and efficiency, and optimize in many areas it is necessary to embrace journey and transform how they handle data and information.

As industrial networks operate more or less independently with all underlying information systems they are usually detached from MES which is usually loosely coupled with ERP as well. Missing vertical and horizontal integration poses impossible foundation to improve or act holistically on a company level. It causes complexity and lack of visibility and end-to-end understanding of factors that contribute to partial or final output. Companies need to integrate entire production process with all of its information systems into one more or less integrated system that will be able to provide automation, answers and insight for management, technicians and operators.

Return on investment

There is no answer to this question as every customer and its business is different. Generally these projects tend to pay back very quickly.

There is a necessary exercise for every client to define priorities and potentials for their projects in their journey of applying analytical capabilities into their operations. It is recommended that solution is initially applied partially step by step. Implementation should focus on identified business areas with high improvement potential. Other should follow as company realizes and learns how to take advantage of new applied methods and technologies.

Competitive advantage

Solution has been built around proven and solid technologies of IBM. Superior technologies in the area of Data Integration and Advanced Analytics could be applied to support any manufacturer which is resolute to embrace Operations 4.0 and improve its effectiveness.

IBM Analytics or IBM Predictive Maintenance and Quality solution are definite leader in predictive analytics and IoT in technology market. They provide many proven tools and assets for data integration, data storage, analytics and predictive models that can apply to any. As IBM is already a leader in the area of Analytics and IoT but it is still investing heavily this is a guarantee for reliable option for the future.

Mature advanced analytics technology with flexible, scalable and reliable tools for data integration and optimization that can be applied in virtual any business.

Industries

Process and Discrete manufacturers

Utility companies

Solution areas

- Advanced Analytics
- Modelling / Assets for predictive maintenance
- Analytics
- Supply Chain Optimization and Planning
- Data Integration
- IoT
- Process Monitoring

Customer size, type

Medium to large manufacturers and utility companies.

Solution link & contact info

Logix d.o.o.
an Analitica company

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info@analitica.si

Solution name

IBM QRadar on Megatrend Cloud

megatrend
poslovna rješenja

Functional details

IBM QRadar on Megatrend Cloud delivers security information and event management services to a hosted cloud customer.

All collected, correlated and analysed security data are stored in Megatrend Data Center in Croatia.

Multitenant solution enables hosting of various cloud customers (small to large customers). This solution from the customer point of view represents outsourced security solution, based in Croatia.

Solution is able to manage real-time security issues since it constantly communicate with X-Force Exchange (world threat intelligence content).

Beside reports tailored for the customer needs (for example; number of new equipment (IoT) connected to the network) solution offers customer network management.

Business problem

- With increasing of automation of processes and IoT presence, a number of potential security weak points increases significantly in time.
- Due to GDPR obligations customers prefer to have stored data and solution within national borders or region
- Customers do not have enough skilled security experts, they are focused and invest in core business and education of employees for core business development.
- Customers have corporate applications (internal transaction's application) that require security monitoring
- Customers are reluctant to invest in business space for their IT infrastructure.
- Customer want to be „mobile" related to their IT infrastructure.

Return on investment

IBM QRadar on Megatrend Cloud provides savings during the inevitable cyber attack. Customer benefits:

- No need for dedicated person for security
- Infrastructure monitoring, procurement, solution upgrade, solution monitoring, DR- disaster recovery, backup, corporate application security monitoring in the area of service provider.

ROI affect can be seen within three months after implementation of all planned functionalities, when customers fully engage with the solution.

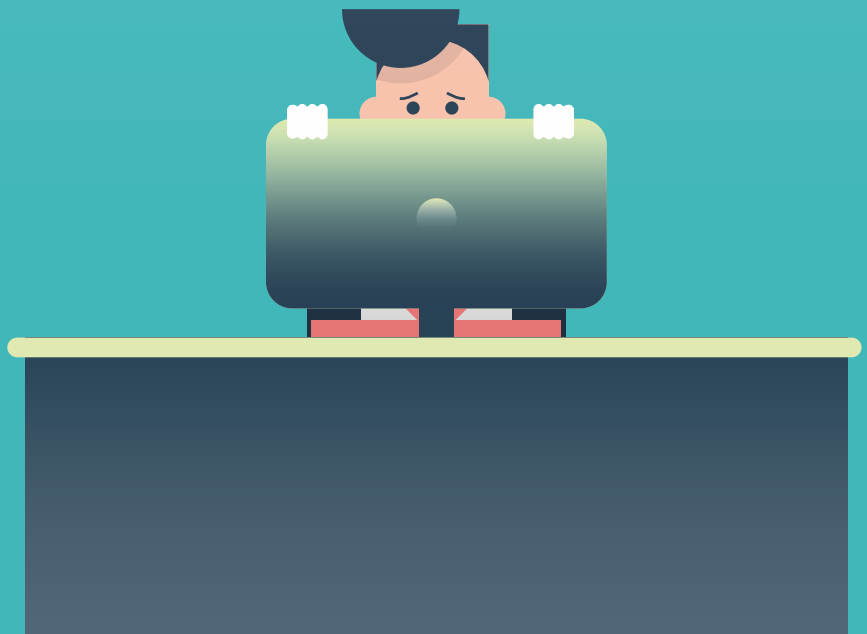
Competitive advantage

Due to market structure target customers are within Croatia and CEE region. Customers are able to geographically locate their outsourced service and are available to physically check infrastructure where their solution is deployed.

Since Megatrend Business Solution has ISO 27001 certificate, customer can refer to that in its business needs and sales activities (for example: software development companies). There is no need to spend resources for ISO certification.

Be fearless with

QRadar on Megatrend cloud



Industries

All

Solution areas

Security network infrastructure management
Network administration
Security reporting

Customer size, type

All industries, all sizes

Solution link & contact info

www.megatrend.com
poslovna.rjesenja@megatrend.com

Solution name

MZR B-Chain™

Functional details

MZR B-Chain™ is a single B2B/B2C/B2S business platform that enables a qualitative leap into the digital era. It is the best application framework which contributes to the optimization of business processes. It is a flexible and scalable long-term solution for all types of business – Business-to-Business, Business-to-Customer and Business-to-Supplier.

Business problem

Usually businesses have a wide variety of suppliers and customers who have different requirements in terms of ordering, several levels of access rights, different catalogs, different price lists and discount lists, etc. A Content Management System (CMS) is also required and important as customers need to promote new products, descriptions, etc. All customers who look into the future need scalable and upgradeable solutions. Such solutions must also, however, be reliable and stable and must offer 24/7 availability. An E-ordering system should not require any specific platform, standard or protocol and should, as far as possible, be separated from other applications.

Return on investment

Call center load decrease

Customer multi-level access implementation

- Different customer roles: goods receiving, order approval, financial status checking

The highest level of B2B automation

Competitive advantage

- Reliable, safe and fast
- Process automation -
- from receiving the product to storage,
- from processing an order to order delivery

A large variety of new functionalities:

- on-line product information,
- on-line order value calculation,
- product deficiency reminder, product detail data information, etc.

Customer self-service: enhanced dialog for exceptions handling by order reply

Customer financial information: payments, debts, order blocking level, statistics,

Inbuilt e-business security (several pwd levels for selected customers, SSL)

Item and supplier advanced search algorithm

Marketing and sales campaign support

Unlimited marketplace

Unlimited amount of customers and suppliers

Easier business administration

High transaction volumes

Full ERP Integration

Industries

Manufacturing
Electronics
Retail
Automotive
Energy and utilities
Healthcare

Solution areas

Application integration
E-commerce
Connectivity and integration

Customer size, type

Companies of all sizes operating in a high-dynamic business chain

Solution link & contact info

www.mzr.net
mzr@mzr.net

Sales & Marketing
Ana Frlič
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Solution name

Profitability Solution

poslovna inteligencija

Poslovna means Business

Functional details

The goal of each enterprise is to make business operations generally profitable – implementing high-quality systems that help you calculate your profitability is a step in the right direction. We have developed our own solution to support **profitability** calculation based on IBM Cognos TM1 platform which includes:

- Integration with external source systems and automated data load
- Supports hierarchical dimension structures which enables drill-up/drill-down/drill-through functionalities
- Supports profitability analysis for up to 8 different dimensions which can be defined as profit and/or cost centers
- Number and definition of selected dimensions in model depends on business requirements of your organization
- Allows unlimited number of parallel P&L structures
- Build-In automated control over allocation process
- Enables simulations and parallel alternatives which can be easily compared
- Possibility to import allocation keys values from source systems
- Enables manual data entry for allocation keys (if values aren't available in source systems)
- Contains simple user interface for grouping accounts into allocation and P&L positions
- Enables detail data analysis before and after allocation process from the lowest posting level through OLAP user interface
- Contains period locking feature which doesn't allow historical data change
- Build-In Web and Excel user interface based on organization preferences
- Includes predefined reports which can be exported into .pdf or Excel file

Business problem

Business success and expansion often brings many challenges, there are more data to be managed and analyzed, business processes become more complex and organizations invest a lot of time and resources in order to maintain control over basic business operations. Also, many organizations make key decisions without full insight into relevant information which would help them to analyze current conditions and project future impact on business. Most importantly, all these information must be available early enough to enable best performance and to accomplish planned targets.

Competitive advantage

- Scalable and completely adjustable to any organization and industry and any set of profit centers
- Fast implementation
- Transparent and reliable profitability calculation and cost allocation
- Easy alternative scenarios comparison and what-if analysis
- Fast hot spots identification and analysis
- KPI calculation automatization

Industries

All

Solution areas

- Analysis
- Design
- Development
- Implementation

Customer size, type

Medium and large companies with large supply chain and complex structure.

Solution link & contact info

poslovna@inteligencija.com
www.inteligencija.com

Solution name

ResEvo ASK.BI

Functional details

ASK.BI is the first available business application on official IBM Marketplace https://www.ibm.com/us-en/marketplace/5831 from CEE Europe, enabled to be deployed in IBM SoftLayer cloud environment.

ResEvo.Arrow ASK BI server is a highly interactive analytic solution used in variety of industries. It can be standalone, or embedded. The end users of the module can benefit from OLAP rich reporting features as well as high performance SQL queries.

ASK.BI can be used as the “whole in one” analytical platform or easily integrated or embedded via REST API.

ASK.BI can be installed On-Premise or in the cloud.

Business problem

Too much data, too little information, hard to get simple answers especially on C-Level. ASK.BI does, what it is expected from a modern business intelligence platform: **“At the end of the day, business intelligence, is about answering business questions.”**

ASK.BI goal is to become C/PCC - Company/Production Control Center, “CEO like” focused, with great user experience. You interact with ASK.BI via search-field (Google-like) or via voice command query analytics of company business data enabling top managers and others a direct one-click access to instantly get insights on any connected device anytime, anywhere by just entering keywords instead of time consuming data mining, report creation or ordering analysis.

Return on investment

ASK.BI saves companies time and money: end users can get information anytime, anywhere. Compared to other BI platforms, features of ASK.BI (relational search, fuzzy search, parallel periods etc.) enables end users to get answers to their business questions from 10% to 90% faster.

Using subscription model, the ROI effect can be seen in a month when users fully engage with the ASK.BI platform.

Competitive advantage

ASK.BI works with Microsoft SSAS OLAP server, INFOR PM OLAP server, open source Mondrian. Can be connected to different OLAP servers/databases: any XMLA enabled OLAP server. Can be deployed anywhere, it is lightweight, easy installable on Windows/Linux.

Deploys in minutes if CUBES are build– saves time and MONEY!

ASK.BI is built on HTML5 standard, using AngularJS/REST API/Java. No install – just Web Browser.

Due to other requirements of the project, our team can also offer a complete set of additional services if needed (DWH modelling, Data Integration - ETL modelling, building cubes, BI project management, …).

Industries

ASK.BI has been designed for retail and manufacturing companies, but also companies from other industries have applied ASK.BI platform to their IT solutions.

ASK.BI can connect to different IoT/ERP systems, like Vasco, Perftech.Largo, SAOP, ProBit, OPAL, Datalab Pantheon, GoSoft, MIT, Navision, INFOR/Baan …

Solution areas

Analytics (ERP, CRM, IoT, …)

Advanced Analytics

Modelling / Assets for predictive maintenance

Data Integration

IoT

Customer size, type

Company of all sizes, from mainly SME till 200 mio EUR of revenue.

Solution link & contact info

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+386 (0)41 911 523
www.ask.bi

Available on IBM Marketplace: Don't BI, Just ASK.BI!
www.ibm.com/us-en/marketplace/5831

Solution name

EcoStruxure™

Life Is On | Schneider Electric

Functional details

EcoStruxure is our open, interoperable, IoT-enabled system architecture and platform. EcoStruxure delivers enhanced value around safety, reliability, efficiency, sustainability, and connectivity. EcoStruxure leverages advancements in IoT, mobility, sensing, cloud, analytics and cybersecurity to deliver Innovation at Every Level. This includes Connected Products, Edge Control, and Apps, Analytics & Services.

The digital backbone connecting best-in-class OT solutions with the latest in IT technology to unlock trapped value in your operations and tap into the true potential of the Internet of Things.

Business problem

- Energy efficiency and sustainability;
- Asset availability and performance;
- Smart, productive, profitable operations;
- Mobile insight & Proactive risk mitigation;
- Predictable maintenance are today's challenges of each and every company.

Clear insight in its operation, proper and on-time decision making and efficient control over its facilities brings the company to the desired competitive advantage in today's harsh business environment.

EcoStruxure gets user on the top of these challenges providing clear, focused, on-time and in-depth system information and control.

Return on investment

Implementing EcoStruxure solution along with Schneider Electric low-voltage, medium-voltage, industrial and IT equipment, customer can save up to 30% of energy used just in the 1st phase of implementation. With further tracking, deeper analysis of operation costs and proper adjustments and upgrades in the 2nd phase further, savings are at hand.

Efficient asset management, predictive maintenance and proactive risk mitigation add to further cost saving thus bringing swift return on investment.

Competitive advantage

EcoStruxure enables tight integration of smart connected machines and smart connected manufacturing assets with the wider enterprise. This will facilitate more flexible and efficient, and hence profitable, manufacturing, better business decisions and forward-looking decision making processes

Industries

Buildings (Building systems, Hotels, Healthcare, Life Sciences, Banking & Finance)

Plant & Machine (Machine automation, Process automation throughout all types of industry)

Grid (Power & Grid Systems, Electric Utilities, Microgrids, Smart Cities)

IT Data Centers

Power (Commercial Facility Management, Critical Facility Management, Consulting and Design)

Solution areas

Power management, Facility management, Machine automation, Process automation, Data centers, Power Grid management

Customer size, type

Small, medium and large companies and organizations.

Buildings, Industry, Utility, IT.

Solution link & contact info

www.schneider-electric.com/b2b/en/campaign/innovation/platform.jsp

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e: podpora.si @schneider-electric.com

Solution name

SmartCity Platform

Functional details

SmartCity Platform is an innovative platform for digital transformation of cities. It connects key city stakeholders such as city leaders, citizens and businesses. It consists of following modules.

sPerformance enables optimization of city management by supporting, planning, measuring and monitoring key performance indicators, including ISO 37120 standard.

sSense monitors the city's pulse by gathering, measuring and reacting on city data, from IoT devices, sensors, SCADA systems or other information systems.

sVoice enables bidirectional communication between the cities and citizens through transparency and two-way communication.

sProjects enables optimization of key development projects management by supporting planning and monitoring of projects.

sDataBank enables integration of data sources and ability to support cities Open Data and API Economy approach.

Competitive advantage

SmartCityPlatform connects all the core elements of a successfully managed city. It allows the SmartMayor to manage urban development, socio-economic development and technological development of the city, measuring and reporting progress in real time. It enables data democratization, transparency and two-way communication with citizens.

Industries

Cities

Solution link & contact info

www.smartiscity.eu

info@smartiscity.eu

Solution name

Smart IoT Platform

SmartIS
PAMETNI INFORMACIJSKI SISTEMI

Functional details

Smart IoT Platform is an innovative platform to communicate with machines and physical infrastructure, gather data and uncover hidden information for digital transformation of businesses. It offers ability to gather and store huge amount of sensor data (SCADA, IoT, etc). Data is then available for extensive analytics using advanced high-performance language for technical computing and to other information system of the customer (for example BI, EAM or ERP).

All the data can also be accessible through API's for driving revenues, broaden distribution and unleash innovation. Through Hackatons users can compete in teams with other and create software prototypes or just algorithms on real data.

Competitive advantage

Also available in cloud, fast to deploy, easy and flexible to use, scalable without limits, based on state of the art big data technologies, open data interfaces.

Industries

All

Solution link & contact info

www.smartis.si
info@smartis.si

Solution name

SmartEAM

SmartIS
PAMETNI INFORMACIJSKI SISTEMI

Functional details

SmartEAM provides asset lifecycle and maintenance management functionalities. This includes asset management, contract management, procurement and materials management, work management, service management and others.

Solution can get insights from the Assets and IoT devices to help focus maintenance resources, reduce unplanned downtime and increase operational efficiency. Based on readings preventive maintenance actions can automatically trigger. It also enables reliability engineers and maintenance supervisors to gain a deeper understanding of the health of their assets. It can enable them to get overall view of the health of different assets and asset classes and support them with extensive predictive maintenance capabilities. Based on asset health they can take appropriate preventative maintenance actions.

Competitive advantage

With its advanced asset management functions, can help improve asset life, reduce assets downtime, raise labor utilization, reduce excess or obsolete inventory and lower the cost of ownership.

Industries

Solution can help improve management of many types of assets, including plant, production, infrastructure, facilities, transportation, and communications.

Solution link & contact info

www.smartis.si
info@smartis.si

Solution name

TIS

SmartIS
PAMETNI INFORMACIJSKI SISTEMI

Functional details

TIS is an intelligent energy management solution based on a robust IoT Platform allowing users to bidirectional communicate with SCADA systems and IoT devices and collect data from different sources, including any devices that supports MQTT or open standard (OPC UA) protocols. Its also connects data sources like SQL databases, Excel (and CSV) files and web services using integrated IoT client, which can be also easily extendable by a customer.

TIS uses streaming engine to analyze, correlate and validate information in real time. It provides real time analytics, notifications and actionable insights allowing users to act on data anomalies as soon as they happen and decrease downtime as much as possible. Among other functionalities it also includes device shadowing, advanced complex event processing, dashboards, event management, KPI management, graphics visualization and other information systems interoperability (ERP, EAM, GIS, etc.).

All the data is stored in a Data Lake, which is accessible also for deep data scientist analytics, using advanced high-performance language for technical computing.

Competitive advantage

TIS is developed in collaboration with Petrol d.d., leading MUMESCo (Multi Utility, Mobility and Environmental Service Company) provider. TIS include state of the art technology and functionalities, which are beyond of all competitors.

Industries

All

Solution link & contact info

www.smartis.si
info@smartis.si

Solution name

Solopex SOLO

Functional details

Solopex SOLO is the ultimate tuning add-on for industrial IT systems. It enables manufacturers to take the best planning decisions for organizing complex tasks on and off the shop floor. SOLO plans tasks like material preparation, production scheduling, workforce allocation, and warehousing optimally at the push of a button.

SOLO combines the power of the IBM Bluemix cloud platform with the world's leading decision optimization engine, IBM ILOG CPLEX. SOLO is accessible as a SaaS product via REST API, integrating easily with any system infrastructure. It does not disrupt existing processes and adjusts to the current data situation.

Business problem

Many industrial manufacturers organize production-related tasks in a manual or semi-automatic way. Human planners apply best-practice approaches or thumb rules and rely heavily on their experience.

This works fine until the planning situation reaches a certain complexity, at which the human mind becomes unable to process all possible alternatives. Consequently, crucial performance indicators like material yield, machinery uptime, and system throughput drop and reduce business efficiency.

Return on investment

Solopex SOLO saves manufacturers time and money: Planners save time by planning production-related tasks at the push of a button. SOLO computes plans that minimize wastage, overall production time, and space use in warehouses.

Compared to manual processing, savings of 15% and more can be achieved for dedicated planning tasks. With SOLO's monthly subscription model, this leads to an immediate return on investment and a lasting increase in profit margins.

Competitive advantage

Solopex SOLO gives industrial manufacturers of all sizes access to the world's leading decision optimization engine - personalized to their individual needs, easy to use, and at an affordable pricing.

Taking the best planning decisions and being able to immediately react to changes and unexpected events in daily operations allows industrial clients to manufacture their products at the highest possible speed and to utilize their resources in the most efficient way.

Industries

SOLO has been designed for manufacturing companies in steel, plastics, aluminum, tooling, chemical, and electronics industry.

Solution areas

1. **Manufacturing execution planning**, e.g., cutting or nesting, machine scheduling, and shift planning.
2. **Resource planning**, e.g., material stock, workforce, and packaging.
3. **Capacity planning**, e.g., machine park, facility location, and product mix.

Customer size, type

Manufacturers of all sized operating in a high-dynamic supply chain.

Solution link & contact info

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Solution name

Comprehensive Energy Management Solutions

SOLVERA LYNX

Business Challenges

To improve operational processes and energy efficiency, companies need to invest in smart networks. Energy management is no longer an engineering issue, but a question of infrastructure which is based on information and communications technologies. The ultimate success depends on the ability of system and devices to securely and reliably interconnect via a network.

Solvera Lynx's solutions

Solvera Lynx offers innovative solutions for smart energy management (EM) based on wireless LoRaWAN technology. This technology is a better alternative to the classical wired networks due to its long range, unique penetration capabilities, flexibility, easy operation & maintenance, safe & reliable data transfer.

So, we focus on energy saving instead of investing in a wired network.

How does it work?

Transmission of the data from devices, sensors, actuators is done by our innovative wireless long-range ComBox.L® equipment, which has long battery lifetime and suitability for the harsh industrial environment. ComBox.L ® sends data to the advanced software platform GemaLogic®, where all the data is gathered, processed and analyzed.

Benefits of implementing Solvera lynx's solution

Implementation of our solution allows companies to accomplish primary EM goals: holistic monitoring of energy efficiency performance and reduction of energy consumption. Due to the introduction of new energy management system and usage of our innovative software (GemaLogic®) and hardware (ComBox.L®) solutions, the following benefits can be achieved:

- Energy consumption reduction in the 1st year of solution implementation up to 7 %
- Analytics to identify consumption patterns, compare historical data, and predict future energy needs
- Reduction of energy losses
- Protection from unexpected energy consumption and alarming in case of energy consumption increase
- CO2 emission reduction
- Support in ISO 50.001 implementation

Competitive advantages:

- LoRaWAN technology covers the entire city and enables us to set up the communication devices in all the less accessible places.
- Ready to use infrastructure, so clients will save time and money on setting up their own.
- Developing software and hardware solution in-house, so we are ready for almost any EM challenge, which requires custom-made, unique, future-oriented solutions.
- The real experience of working in the hardest industrial environments - inhospitable, with high moisture rate, extreme temperature conditions and far-spread production areas where LoRaWAN communication is the only suitable alternative to the classical wired system or 3G/4G networks.

SMART ENERGY MANAGEMENT SOLUTIONS

ENERGY MONITORING

Make energy use visible.

ENERGY EFFICENCY

Lower your energy costs.

ENERGY FLEXIBILITY

Balance the demand and supply of energy.

Who can benefit from our solutions?

A wide range of business applications can benefit from our solutions: Energy & Utilities, Telecom, Oil and Gas, Factories, Building and Facilities, Industry, Agriculture, Smart City, Transport, and Logistics.

We have already provided tailor-made solutions for the following projects: smart metering (electricity, gas, water, air renewable energy), volume monitoring (fuel tanks/containers), different types of analyses (air quality, temperature, humidity), tracking/localization and machine status monitoring.

Solution link & contact info

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Solution name

Spica's Time & Attendance and Access Control Solutions

Functional details

Spica International has been a specialist in automatic identification since 1989. Our core business has always been comprehensive automatic identification for Time & Attendance, Access Control and connected solutions based on BLE, NFC, RFID and barcode. Our solutions enable registration of staff and access control based on identity cards, mobile devices as well as automatically. Moreover, Spica is also among IoT pioneers: it has introduced and deployed solutions to collect information from various sensors and to provide meaningful insights into collected data to the users. For example, Spica launched RFID laundry tracking in the University medical center Ljubljana, the largest hospital in Slovenia. A similar project was developed and deployed in the Coal mine Velenje, the largest mining company in the country,. In the mine, we track the tools in the tunnels as well as the actual crew. As soon as a person enters the mine, an RFID tag from the helmet is transmitted to the system, which is of crucial importance in case of security incidents. In Slovenia's main port, Luka Koper, Spica installed an automatized scanner that can recognize registration plates on vehicles and with long range RFID identification also the drivers.

Business problem

The most important benefit of modern technology is the automatization of processes and the optimization of resources and workflows. In this manner, Spica's solutions bring agility and efficiency to access control, time and attendance, and tracking processes using technologies that optimize identification: RFID tags and cards, Bluetooth and GPS modules on mobile devices and even readerless solutions.

Return on investment

Each Spica's installation is equipped with a plan that includes calculations of return on investments. The "break even" point is usually forecast based on the level of efficiency the client has prior to the introduction of Spica's solution. The biggest impact of Spica is the reduction of manual work in administration (payroll preparation, identification of guests or external contractors), raising the security level and accelerating access control processes while lowering procurement costs (better tracking of devices, tools, equipment and accessories).

Competitive advantage

Spica's portfolio of high quality products and hardware is mostly designed in house by substantial R&D team (including specialized teams for custom solutions). Beside our own development, we have a strong professional service team for project implementation and customer service.

Industries

Spica's products can be applied in all industries and companies of all sizes, from small startup companies to big enterprises. Our customers range from banks and public government sector to retail and production companies.

Solution link & contact info

Spica International d.o.o.
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www.spica.com
www.timeandspace.eu
www.allhours.com
www.myhours.com
www.doorcloud.com

Solution name

TaskQP Manager

Functional details

- Task assignment and management
- Manual task prioritization
- Generation of reports on tasks and employees
- Service Level Agreement definition
- Automatic task assignment according to task priority
- Support for task escalation before and after predefined task resolution times
- Addition of comments to tasks
- Automatic real time task prioritisation
- Management of tasks from several systems at once
- Prediction of critical deadlines after which the SLA could not be met
- Creation of “announced” tasks

Business problem

TaskQP Manager helps managers automatically prioritize and assign tasks according to predefined criteria, and predict possible failures to meet task completion deadlines, thus enabling businesses to effectively and efficiently honor Service and/or Operational Level Agreements.

Return on investment

Use of TaskQP Manager would have the following benefits for the business:

- Eliminate the need for dedicated persons to analyze task priorities and assign tasks to the workforce depending on the availability of each worker;
- Reduce task administration time;
- Help avoid penalties for missing task execution deadlines.

Competitive advantage

The main competitive advantage of TaskQP Manager is that it is a single solution offering functionality that would otherwise be offered through several different solutions. In addition to being a standalone solution, it also offers the ability to seamlessly integrate with existing BPM and task management systems, as well as custom made applications, thus extending their functionality.

Industries

- Automotive
- Banking
- Energy & Utilities
- Insurance
- Retail

Solution areas

- Infrastructure and Support Services
- Operations & Processing
- Customer Service
- Store Operations
- Business Operations

Customer size, type

100+ Employees

Solution link & contact info

www.svgroup.hr/en/SV-Group/solutions/taskqp-manager
info@svgroup.hr

Solution name

SiToolbox

Functional details

SiToolbox utility tool is an add-on to IBM® Sterling B2B Integrator (B2Bi) and IBM® Sterling File Gateway (SFG) with an easy to use graphic user interface for the expansion of functionalities and management of B2Bi/SFG. Its purpose is to provide a thorough comparison, synchronization and reporting between system entities on B2Bi/SFG systems.

SiToolbox will help companies to:

- Ensure safe, seamless and transparent synchronization of your B2Bi/SFG resources between all B2Bi/SFG environments.
- Automated deployment.
- Track and compare the execution of business process from start to end.
- Audit and reporting of the B2Bi/SFG state.

Business problem

It can be a struggle for companies with large and complex environments, based on the IBM Sterling MFT portfolio (B2Bi/SFG) to keep a clear view of the state of their environments. Over time, different versions of business processes and other entities will appear over the various environments, due to testing, bug fixing and any other reason. Tracking the differences between these can be a challenge. SiToolbox introduces the solution for this by means of connecting to any instance of the B2B/SFG software and easily allow for comparisons of any of the instances. Additionally, SiToolbox allows for an easy synchronization process between the environments, easing deployment and moving into production. As each action is logged, reporting is a key functionality that provides an overview of the complete state.

Expanding on these functionalities, similar processes are available to track the execution of business processes. This eases resolution of any issue with an executed business process.

Return on investment

Increased ease of usage of the B2B platform made possible by SiToolbox leads to a quicker move to production and reduced time needed of administration. Additionally the easier overview of issues reduces the time for resolutions. All of this leads to less downtime and higher utilization of the system with fewer resources required.

Competitive advantage

SiToolbox builds on by many years of experience across many sites using the B2B portfolio, improving on many of the difficulties with setting up and supporting the day-to-day tasks in a B2B/SFG environment. New functionalities are constantly being added to SiToolbox, guaranteeing additional future benefits as well (e.g. cloud connector for AWS).

Industries

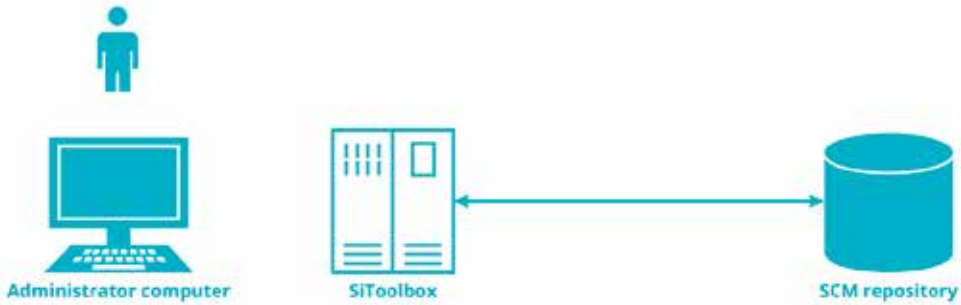
SiToolbox provides an improvement to all B2B/SFG use cases.

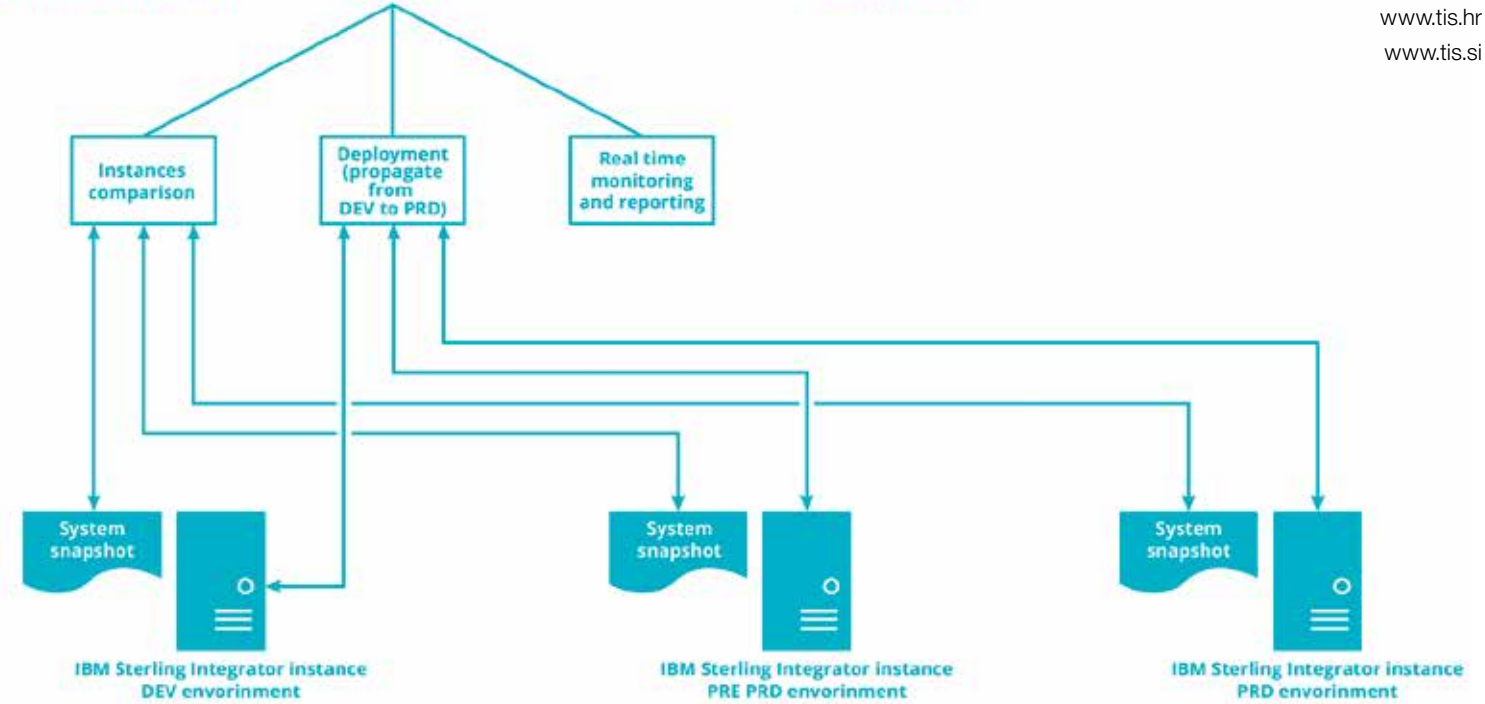
Solution areas

- Administration
- Deployment
- Debugging
- Reporting

Customer size, type

Any business using the IBM B2Bi solution can use SiToolbox. As it is a flexible and scalable solution adding benefits to both a single instance of B2Bi/SFG and more complex implementations across multiple environments.





Solution link & contact info

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Solution name

TIS eSIG

Functional details

TIS eSIG is a solution for secure digitalized signing of documents, which is one of the critical prerequisites for transition to a non-paper business or digital business transformation.

It allows user to sign a document manually on a signing or mobile device or to sign a document using personal digital certificate by a mouse click. It is possible to define the signature workflow to support processes, which involves multiple parties and more employees signing the same document. Each signatory can receive information via e-mail about the documents waiting for his signature.

The eSIG solution based on Namirial Digital Transformation Management Platform simply integrates with existing business information systems and permanent archiving solutions of signed documents, such as IBM ECM.

Business problem

Printing, signing, scanning and storage of scanned documents can be a long and expensive process. Printing documents just for the acquisition of the handwritten signature of the client is not only an outdated practice but is also a considerable waste of time and money. The modern process of document digitalization, which capture the client's handwritten signature, allows for a completely paperless process.

Return on investment

Introducing documents, containing handwritten signatures into the business process of digital economy can influence the top line by:

- Decreasing manual, paper-based processes that are the root of high transaction costs,
- reducing administrative labor costs,
- lowering the cost of archiving paper records,
- time savings for sales or customer service personnel by freeing paper tasks,
- electronic process combined with e-signatures provides extensive audit trail stronger
- than possible with paper and reduce the risk of legal disputes,
- straight-through processing enables new sales channels and makes new products possible,
- mobile e-signing helps employees get more done in less time,
- fast, efficient customer experience is rewarded with higher customer satisfaction and long-term customer loyalty.

Competitive advantage

Not only are systems based on smart cards and Public Key Infrastructure (PKI) complex and expensive, they are usually also not well accepted by end users. On the other hand, digitalized handwritten signatures can be easily introduced into such a process, especially since they are based on the familiar act of signing a document by hand. In this way, a situation that is user friendly and trustworthy can be established.

Industries

All

Solution areas

TIS eSIG can be introduced in every business process where personal signature is used: in delivery process (Delivery Notice), in production (Work Order) in HR, at Point of Sale, for mobile document signing, remote e-signing via the Web … and many more.

Customer size, type

Companies of all size, using handwritten signatures.

Solution link & contact info

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