

# Enabling Business Success in a Connected World



Bosch Software Innovations



**BOSCH**  
Invented for life

# Bosch Software Innovations

## Shaping the Future–

with new business areas such as Connected Mobility, Connected Energy and facility management, Connected City, Enterprise and Industrie as well as Connected Life, Bosch Software Innovations is taking on today's challenges with innovative and intelligent solutions.

Today's world presents many challenges: Megacities are developing in which people live together in cramped conditions. While the world population is quickly growing, people are living longer due to the great improvements in medicine. In today's globalized society, mobility is becoming more and more important – while at the same time, resources are diminishing and increasing emissions are changing our climate. New innovative approaches and business models are required to meet these challenges and utilize resources more efficiently or take on completely new paths.

The Internet of Things and Services will play a key role in this respect. The progressive connecting of various areas, which until now, existed independently, will significantly change the environment in which we live. New opportunities will be created, making our lives more pleasant, comfortable and safe. By developing new, innovative and intelligent software solutions, resources will be utilized more effectively and thus more environmentally friendly, opening new possibilities. Bosch, as a leading international and widely diversified technology and service supplier, has outstanding competency in various areas. Pooled with the software competence of Bosch Software Innovations, Bosch has the capability of providing sophisticated and complex solution packages in these areas that meet today's challenges – and thus are “invented for life”.

### **Connected Mobility**

In the age of climatic change, reducing emissions is becoming more and more important. Air and noise pollution play a

decisive role, especially in the major cities and metropolitan areas of our world. New mobility concepts are in high demand. An example here is electronic mobility, which enables emission-free driving. The key factor for acceptance of electric vehicles will be the driver's confidence of having access to sufficient energy at any time, despite a limited driving range. This is achieved through comfort features such as the simple reservation of on-route charging stations via smartphone, as well as the sufficient and convenient availability of charging stations, for example at the workplace.

### **Connected Energy**

The transition to alternative, renewable energy sources and the decentralized energy supply through private producers present major challenges for power suppliers in terms of line stability and supply security. Intelligent connecting of producers and users can provide optimal utilization and intelligent management of energy flows, and lead to the realization of new innovative services.

### **Connected City**

More and more people are moving to cities, resulting in an increase of megacities and metropolitan areas. Living and working in dense areas pose new challenges. Access to clean water and sufficient energy must be ensured, traffic routes must be optimized and emissions reduced. Intelligent control and monitoring systems are a helpful solution. They provide added value, such as optimized traffic guidance systems based on real-time data that suggests optimal traffic



Connected Mobility



Connected Life



Connected Energy



Connected City



Connected Enterprise

Connected Industry

routes during major events, and re-route traffic to avoid jams.

**Connected Enterprise**

With our connected mobile solutions, Bosch Software Innovations assists banks, financial institutions and industrial companies in designing their business processes more effectively and sustainably increasing customer value. Through numerous projects in various industries, Bosch Software Innovations offers its customers an abundance of know-how to swiftly understand and implement their needs and requirements.

**Connected Industry**

In the future, web-based and highly-connected software systems will also be incorporated into production systems: Within companies, the business, production, maintenance and service processes will be more intensively integrated, with the objective of reducing reaction periods in the case of malfunctions and optimizing resource usage in all process phases. A specific example here is intelligent remote monitoring of systems, which is being developed on the basis of Bosch technologies today.

**Connected Life**

An example of Connected Life is Telemedicine: New concepts will enable chronically ill patients and the elderly to live at home in their familiar environment, without having to miss out on appropriate medical care and still have piece of mind in knowing that immediate help is available in case of an emergency. This provides an improved quality of life – and relieves health systems through cost advantages.

**Our Offer**

The basis for all of our software and system solutions forms the following technologies that support us and our customers in swift and efficient realization:

*Platform:* With Bosch Software Innovations' system and services platform, versatile applications, such as in electronic mobility, can be swiftly and efficiently implemented on an open, flexible platform in the Internet of Things and Services. This provides for intelligent, performant and secure connecting of devices and sensors. Internet Services make functionality available everywhere and generate added value by combining them with new functions.

*Products:* With the integrated and graphic-based approach, the Business Process & Rules Management products inubit Suite and Visual Rules Suite offer customers even better possibilities for a comprehensive business process management, as well as simple and swift implementation of business rules in software applications by the business experts themselves.

*Solutions:* With process-oriented and rule-based company solutions, Bosch Software Innovations offers tried-and-tested flexible solutions, for example in the areas of finance, industry, public administration and healthcare.

### **Shaping the Future**

Bosch Software Innovations is the pioneer and innovator for future-oriented, internet-based applications. The central subject is the Internet of Things and Services as well as the implementation of associated business models. Based on the aforementioned technologies, Bosch Software Innovations develops solution approaches, with which companies can gain access to the world of the Internet of Things and Services and thus to new business possibilities.

### **Internationality**

In Germany, Bosch Software Innovations has locations in Immenstaad and Waiblingen (near Stuttgart). Since the acquisition of inubit AG, another attractive location also exists in Berlin. Outside of Germany, Bosch Software Innovations is represented in Asia in Singapore and in the USA in Chicago, Palo Alto and Vienna. At present, the company employs about 450 persons globally with strong growth expected in the coming years at all locations. The development of further locations in Asia and South America is in planning.

### **Company History**

Bosch Software Innovations has successfully been in the market since 1997. For 15 years, the company has been standing for innovative, high-quality software solutions based on the business rules management software, Visual Rules. The solutions in the field of credit risk rating and compliance are successfully used in many banks, and increasingly in industrial companies as well. Since the

acquisition by Robert Bosch GmbH, the company, with the unique combination of its software knowledge and the expertise of Bosch, can now provide comprehensive software and system solutions to all customers. Bosch Software Innovations supports customers in opening new markets in the Internet of Things and Services, and in efficiently and successfully utilizing the possibilities resulting from these new developments.

The Bosch Software Innovations portfolio was ideally supplemented with the knowledge and technologies of inubit AG, acquired in 2011. With the use of a comprehensive and integrated business process and rules management software, customer requirements can now be better covered and adaptations carried out more swiftly. Together, both companies pursue the objective of supporting their customers and partners in opening new markets and implementing new business possibilities in the Internet of Things by connecting functions and processes, services and devices with the joint motto, "Enabling Business Success in a Connected World".



Immenstaad/Germany

Waiblingen /Germany

Singapore



Palo Alto/USA



Chicago/USA



Berlin/Germany

## **Bosch Software Innovations**

### **– At A Glance**

- ▶ Innovative software and system solutions for the Internet of Things and Services
- ▶ Business Rules Management (BRM) and Business Process Management (BPM)
- ▶ Intelligent Enterprise Solutions for various industries
- ▶ About 450 employees
- ▶ Locations in Immenstaad, Waiblingen, Berlin, Chicago, Palo Alto, Vienna and Singapore

# BPM meets BRM

## Visual Rules & inubit Suite

Linking Business Process Management (BPM) and Business Rules Management (BRM) is now a standard approach in companies that value agile processes.

The combined product offering of Bosch Software Innovations and inubit provides high quality software products for both areas.

With the inubit Suite, a market-proven software for comprehensive business process management, and the Visual Rules Suite, an efficient platform for creating, maintaining and optimizing the business logic (business rules) of a software application, companies can optimize their internal and business processes.

### **Model, Execute and Monitor Business Processes with inubit Suite**

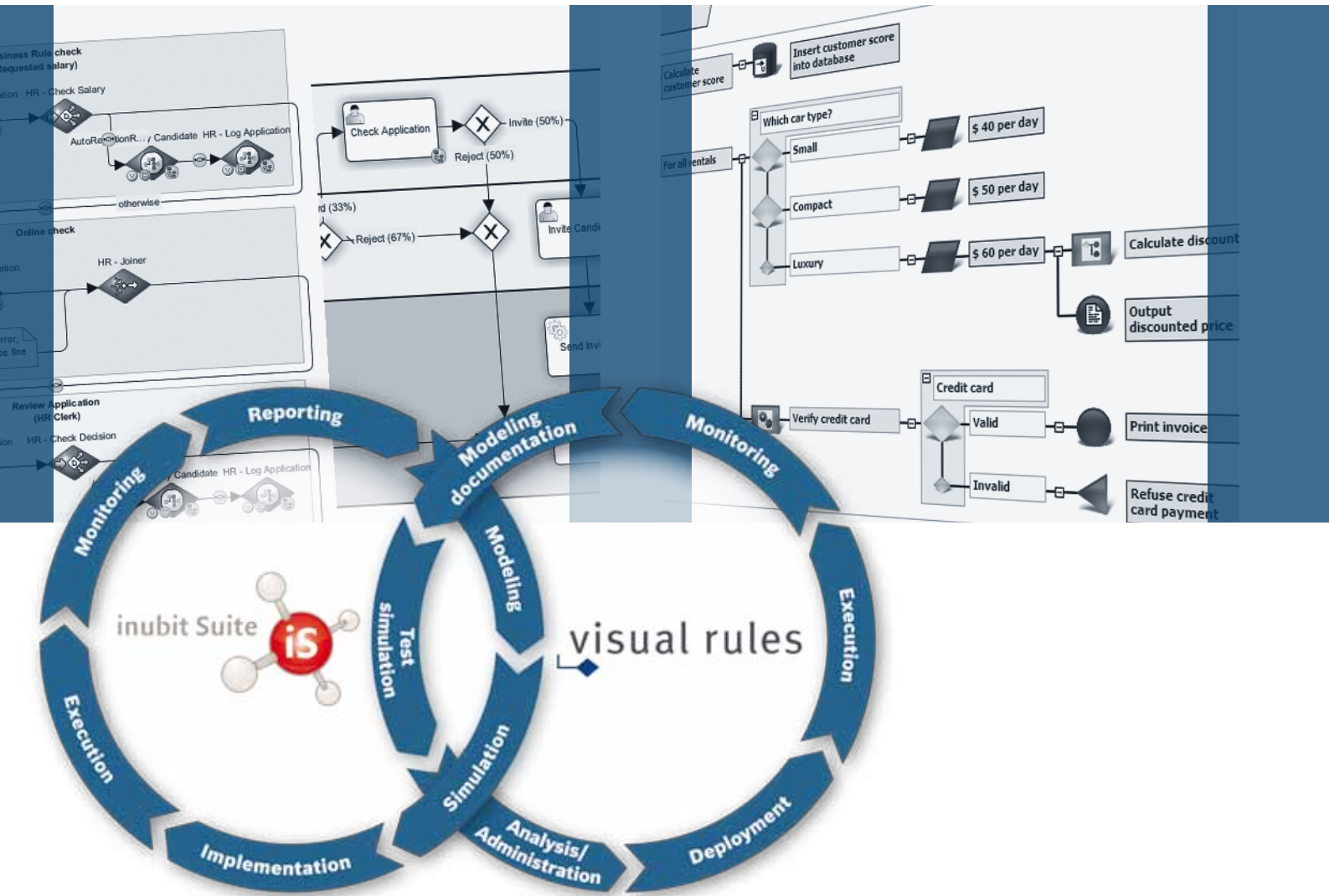
Business and IT – Together, they pursue the objective of designing business processes more efficiently, and thereby respond flexibly to new requirements. The inubit Suite provides the technological platform necessary to achieve this objective. Therefore, the company's main focuses are the core processes – all involved employees, the management, business partners and customers are actively involved in the execution process, while internal or external IT applications are seamlessly integrated. All participants involved in the process are able to model any process requirements on a shared platform.

Thanks to the graphical modeling approach, a company's business processes can easily and quickly be documented

and adjusted on demand. The modeled business processes are then (semi-)automatically transformed into technically executable processes, called Workflows. As part of the technical execution, user interfaces can also be created and connections to other software applications can be implemented; such as to SAP's accounting system or external business partners. In addition, inubit Suite allows for various process-related data – such as number of cycles, acting departments, duration, costs – to be collected and processed for management and those responsible for processes. Thus, it is possible to continuously check processes regarding their potential for improvement.

### **Modeling Business Rules with Visual Rules**

While the inubit Suite focuses on process flows, Visual Rules models the business logic in the form of business rules. These decisions, made within the scope of business processes, control internal application processes and initiate the corresponding actions. Visual Rules' coherent graphical modeling approach enables an intuitive management of business rules throughout the entire life cycle – without any technical know-how required.



Business users are empowered to create and maintain their own rules, incorporate them into regular operations, and monitor them. The core idea of the rule-based approach is modeling the central application components with rules instead of programming them. The rules also support the documented integration of specific processes and applications in heterogeneous and distributed IT environments. Visual Rules Suite therefore provides tried-and-tested tools as well as platforms for the implementation and operation of applications with internet technologies that completely meet the demands of companies in terms of flexibility, performance and agility.

**Award Recognition**

The strong performance of the combination of both products has already been proven in joint projects. One such integrated project was awarded recently in December 2011. Hanse-Merkur Insurance Group was honored with the Europe Gold

Award for its automation project in claims processing. The jury of representatives of the Workflow Management Coalition and BPM.com acknowledged companies that were able to achieve their strategic goals in a verifiable manner through the use of an innovative business solution. Thanks to automated claims processing, based on both inubit Suite and Visual Rules, HanseMerkur was able to handle revenue growth of 15-20 percent with comparable growth in the number of cases, without increasing staffing levels.

# The Connected World

## The Internet of Things and Services

The future of the Internet has many names: Web 3.0, Sensor Web, Cyber Physical Systems, Machine-to-Machine (M2M) Communication, Ubiquitous Computing, Internet of Things. All terms point in the same direction: The practical and intelligent connecting of many things of everyday life, and thus, linking the physical with the digital world.

Flexibly and efficiently linking people, machines and things together, poses both a chance and a challenge at the same time. In the coming years, Bosch will consequently expand its activities in the areas of mobility, energy and building technology, urban life, connected industries and connected life. In the Internet of Things and Services, we perceive trends in the following sectors: technologies, business innovations, markets and competencies.

### Technologies

The internet and its technologies are the medium and the driver for connecting billions of things - from the smallest sensors, to smartphones, PCs, and high-performance computers. Open Source accelerates the development and creates open standards and communities. Businesses move their activities to internet platforms.

### Business Innovations

Linking intelligent things, companies and people leads to innovation in the scope of services and in business models. Internet business models are transferred to the traditional product business (for example, the 'Pay-Per-Use' principle, which is applied in car sharing).

### Markets

Many industries and branches will have their first encounter with the Internet of Things and Services. Currently, individual markets - such as mobility and power engineering for the operation of electric vehicles using renewable energy sources, will blend together. Market players of individual

areas will both compete and cooperate in the new markets. Business ecosystems that are tightly connected with social networks, such as Google+ and open-source communities like Eclipse, will emerge.

### Competencies

Software and system competencies, differentiated knowledge in the industries, as well as sufficient creativity, are decisive factors for successful innovations in the Internet of Things and Services.

### Bosch Software Innovations' Approach

Bosch Software Innovations, the software and systems house of the Bosch Group, takes these four aspects into account on a single platform. It forms the technical basis for applications in the Internet of Things and Services and provides both the intelligent connecting of devices and sensors, the "Things", as well as reliable provision of the cloud services.

This system and services platform is not only a vision of the future: In the area of mobility, it today forms the basis for intelligent connecting of charging stations, E-vehicles, fleet operators, drivers and power suppliers. It thus forms the fundament for Bosch's internet-based offering.

# The Electro-Mobile Enterprise

## – Zero Emission, Thousands of Possibilities

Electric mobility offers numerous opportunities but is often associated with limitations and risks. Find out how Bosch Software Innovations is creating new opportunities and ensuring reliability.



### Dynamic Market Developments in Electric Mobility

The number of marketable solutions and patent applications are steadily increasing, which is also reflected by the launch of numerous new electric and hybrid vehicles. Many places are investing in establishing an infrastructure for charging electric vehicles; the interest of the media remains high.

The structure of the projects is changing throughout the world. Although public funding of the charging infrastructure is being scaled down, the interest of public and private companies in electric mobility, the business opportunities created and the underlying technologies is on the increase. Instead of a vision for tomorrow, it has become a technology for today – with enormous economic potential.

### The eMobility Package for Companies

Bosch Software Innovations has extended the range of basic and value-added services for the operation and use of the charging infrastructure with charging stations from various partners. Specific functions for the management of electric-powered vehicle fleets are envisaged for the future. Entry can commence with a single vehicle and a charging station or with the immediate conversion of an entire vehicle fleet. Bosch Software Innovations bills the Internet services provided on a “pay-per-use” basis, enabling a clearly calculable basis for entry into a business fleet of electric vehicles.

For example, the advantages of electric vehicle fleets for companies are low operating costs as well as zero emissions in respect of exhaust gases and noise, improved employee relations and image building.

### Implementing the Future

The Bosch charging profile serves as the communication interface between the charge spots and the back-end software. It is already oriented towards the future requirements of grid stabilization. Bosch eMobility Services are available as an internet service: the drivers register online, authenticate themselves by means of a RFID card at the charge spots and start their charging processes. Interfaces with the billing systems reliably provide an exact account of the amount of energy acquired. The charge spots can be remotely maintained at low costs.

For users who already use a fleet management system, the internet service for the charging infrastructure is an ideal complement. In future, the vehicles as well as the equally important charging points can be reserved. In the event that the employees are entitled to use the charging infrastructure and company vehicles for private purposes, Bosch is able to assist with the “administration” by providing the necessary data for the proper accounting of non-cash benefits.

# Customized Company Solutions for your Requirements

With company solutions specifically customized to the needs of individual business branches, Bosch Software Innovations offers the right solution for a variety of scenarios. From the financial industry to energy markets, public administration and healthcare – for individual key processes or as company-wide rollout – our solutions create lean, customized processes.



## Solutions for Banks and Insurance Companies

Our finance solutions support financial institutions with the systematic automation and optimization of business processes. By providing online solutions, automating verification processes and reducing paper-based and manual procedures, personnel resources can be applied more efficiently, process runtimes can be shortened and the cost / loss ratio can be optimized. For example, the typical application areas are in credit management, the evaluation of credit risks, stress testing or compliance.

The Credit Risk Rating Platform enables transparent implementation of rating models in the context of Basel II as well as the mapping of all processes concerning the granting of credits, such as evaluating creditworthiness, structuring conditions, granting and monitoring credits. This platform is successfully being used by banks in Europe, America, Africa and Asia.

The Compliance Suite provides all functionalities for the detection of money laundering, financing of terrorism and conflicts of interest, monitoring of payment transactions, as well as for the prevention of insider trading, market manipulation and fraud.

## Process Automation in Commerce and Industry

Processes in commerce and industry are characterized by very high complexity and speed. The primary aspect is the necessity of swift and reliable electronic data exchange between all process participants and flexible designing of

information flows. Bosch Software Innovations' solutions support companies with a unique end-to-end platform across all levels of process design, in which all common branch standards and branch-typical processes can be mapped.

An example of such a solution is the modern credit management that optimizes the yield and liquidity situation of companies. Within industry, commerce or with service providing companies, an automated credit management process supports customer evaluation and the timely detection of loan defaults, for example in the area of leasing. With electronic support of credit management processes, companies have the possibility of evaluating the creditworthiness of their customers according to their own business model and risk tendency. Here, numerous work steps are supported, such as data collection and import, risk analysis and evaluation of creditworthiness, credit and limit decision-making, reporting as well as monitoring and early-warning systems.

## Simple Paths for Complex Processes in the Energy Market

The liberalization of the energy market and the ever-changing requirements of industry and legislators force energy suppliers to automate both internal as well as external business processes. On the one hand, this is the only way to comply with the legal requirements of separating networks and energy. On the other hand, the automation of business processes also offers energy suppliers the potential to strengthen their own competitiveness by applying efficient processes. More than 250 companies in the energy market use the inubit Suite process platform to unify the data



“Creating rule models on our own – that makes us independent from the IT department.”

Florian Graßhoff – Risk Manager,  
Volkswagen Bank GmbH

exchange between all kinds of market partners in the electricity and gas market, and to implement numerous newly defined business processes.

#### **Optimized Processes for Authorities and Healthcare**

Authorities are facing major challenges on the road to achieving service-oriented administration. While the demands for efficiency and citizen-friendliness are increasing, the strained budget situation grants those responsible only limited capacity to act. Additionally, more and more services are to be provided through fewer staff in less time, while the requirement of increasing integration of specialized administrative procedures is on the rise. The healthcare industry is facing similar challenges. The economic situation of hospitals - which has become more strained with the introduction of flat rates for DRGs (diagnosis related groups) - requires high resource efficiency, compliance with security standards as well as high-quality patient care. Thanks to the inubit Suite as the process management platform, it is possible to introduce modern processes and optimized case management, and thus meet current and future challenges.

#### **Process Solutions for Branch-Comprehensive Use**

Based on our process and rule technology, Bosch Software Innovations offers solutions for key processes that can be applied in all branches and sectors. This includes general processes, such as invoice management, usage of electronic signature, or the automation of paper-based processes. These pre-configured process packages include specific and technical process templates, which can be directly incorporated into the inubit Suite and easily adapted to your individual situation (e.g. connecting to back-end systems) by means of simple configurations.

Bosch Software Innovations GmbH, the software and systems house of the Bosch Group, globally designs, develops and operates innovative software and system solutions for the Internet of Things and Services.

In this environment, we focus specifically in the areas of connected mobility, connected energy and facility management, connected industry and enterprises, and connected healthcare. With our core products, “Visual Rules Suite” for Business Rules Management and the “inubit Suite” for Business Process Management, we comprehensively support our customers and partners in developing and implementing new markets and business opportunities in the Internet of Things by linking functions and processes, services and devices. Bosch Software Innovations provides individual, customized solutions for financial institutions, financial service providers and industrial companies.

With about 450 employees currently, Bosch Software Innovations is globally represented with locations in Immenstaad, Waiblingen and Berlin, Germany; Chicago, USA; and Singapore.

For more information, go to [www.bosch-si.com](http://www.bosch-si.com)

The Bosch Group is a leading global supplier of technology and services. According to preliminary figures, more than 300,000 associates generated sales of 51.4 billion euros in the areas of automotive and industrial technology, consumer goods, and building technology in fiscal 2011. The Bosch Group comprises Robert Bosch GmbH and its more than 350 subsidiaries and regional companies in some 60 countries. If its sales and service partners are included, then Bosch is represented in roughly 150 countries. This worldwide development, manufacturing, and sales network is the foundation for further growth. Bosch spent more than 4 billion euros for research and development in 2011, and applied for over 4,100 patents worldwide. With all its products and services, Bosch enhances the quality of life by providing solutions which are both innovative and beneficial.

Further information is available online at [www.bosch.com](http://www.bosch.com) and [www.bosch-press.com](http://www.bosch-press.com)

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