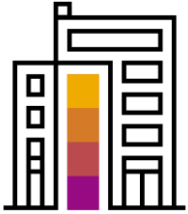




# SAP® Innovation Awards 2020 Entry Pitch Deck

Internet of Tools: Digital Construction Site Tool Management

Velesstroy LLC, Russia



## Company Information

**Headquarters** Moscow, Russia

**Industry** Engineering, Construction, and Operations

**Web site** <https://www.velesstroy.com/>

**Intro Video** <https://youtu.be/D98l4JBpiJY>

**Velesstroy** is a Russian construction company, one of the market leaders that implement oil & gas and electric power sector projects, and industrial & civil works, as well as EPC contracts & engineering.

**Velesstroy** construction sites are located all over the Russian Federation. You can come across Velesstroy brand anywhere in Russia - from the northern borders down to the southern borders i.e. in Sakha (Yakutia) republic and Krasnodar krai, and in Leningrad oblast, and in Krasnoyarsk krai, and in Khabarovsk krai. The brand is a sign of proven quality and successful projects.

### **Velesstroy business stands on 3 pillars:**

- 100% client satisfaction – always on time and on budget
- State-of-the-art and high-tech engineering solutions
- Big respect for employees. Health and Safety rules with highest standards

**30** Years in  
Construction

**25 000 +** Employees

**120+** Projects

# Digital Construction Site Tool Management

## Velesstroy LLC



*It is crucial for us to have an accurate and reliable outlook of which tools are available at any given moment, including their precise location: what construction sites, where exactly within a particular site there are operated and by whom, as well as their detailed technical condition.*

*All that helps to always make appropriate management decisions, faster than ever.*

- Head of Construction Tools Department

### Challenge

- High operating costs of **construction tools**
- Broad geography of projects with **30 000 + tools** on sites controlled by non-standardized asset management business processes
- Pressure to implement new digital technologies to follow the path of becoming an **intelligent enterprise**

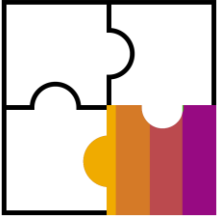
### Solution

Business application development based on **SAP Cloud Platform** utilizing **IoT** technology capabilities to standardize and automate the work process across diverse functional areas (e.g. repair workers, foremen and buyers)

### Outcome

- Online monitoring and control of equipment usage on remote construction sites
- Reduction of labor intensity at least by 1 hour per day for 51 accounting staff serving 17 locations
- Unlocking working capital through greater transparency of business processes





## Participating Partner Information



**ITIK**

**Business Application Developer**

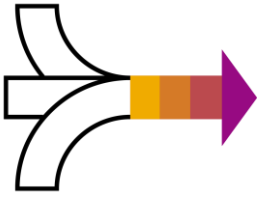


The company's management was not satisfied with the relevance of the existing information on tangible assets - budgets for equipment repairs were constantly growing, accompanied by full absence of statistics on repairs and no personal record of equipment usage by workers.

The implementation of the project involved the creation of both web and mobile applications, and integration with an existing on-premise ERP system. As an outcome all limitations were eliminated and the project was successfully deployed.

German Shapkov Head of Cloud Solutions Department



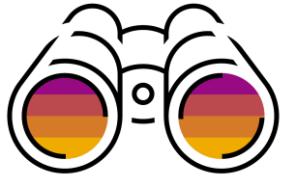


# Business Challenges and Objectives

- **Reduction** of operating **costs** of construction tools and their maintenance
- Ensuring the **transparency** of tools turnover and ability to quickly obtain accurate, previously unavailable qualitative information about their condition **minimizing the human factor**
- Obtaining **end-to-end** information throughout **the entire life cycle** of construction tools (from the moment of their initial shipment to the construction site warehouse to their write-off and disposal / disassembly for spare parts)

- Automation and business processes reengineering of construction tools turnover accounting
- Adoption of a fault-proof system
- Forecasting the economic optimal quantity and lead-times for MRO purchases and checking their financial feasibility
- Advanced capabilities in equipment search and status identification
- Simplification of inventory management
- Real time reliable analytical and statistical information on construction tools life cycle
- Paper workflow automation





## Project or Use Case Details

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The application was developed both for the purpose of expanding existing business processes possibilities as well as for automation of absolutely new processes which previously were non-existent or carried on paper.

The implementation of this project required the development of a cloud database from scratch based on high-performance **SAP HANA**. The provision of automatic data exchange with the local ERP system was implemented using the **SAP Cloud Platform** integration interface. The key goal of the entire project was the transition from approximation accounting methodology to SKU tracking - an ability to assign a unique identification number to each piece of equipment. RFID technology was chosen for equipment identification. Now all construction tools are equipped with RFID tags, and the mobile application can extract information from those tags.

Transforming Velesstroy business processes by moving accounting operations from the **Velesstroy** office directly to construction sites also required a development of a solution which allowed generating printed forms of documents right from the web application.

The mobile application also should work even without the Internet connection as some of the company's construction sites are located in remote areas with no mobile network service coverage. After reconnecting to the Internet, the applications are able to automatically synchronize with the cloud system.



# Benefits and Outcomes

## Business or Social

- Higher operational efficiency
- Extended business-process control
- Unification of business processes across all construction sites

## IT

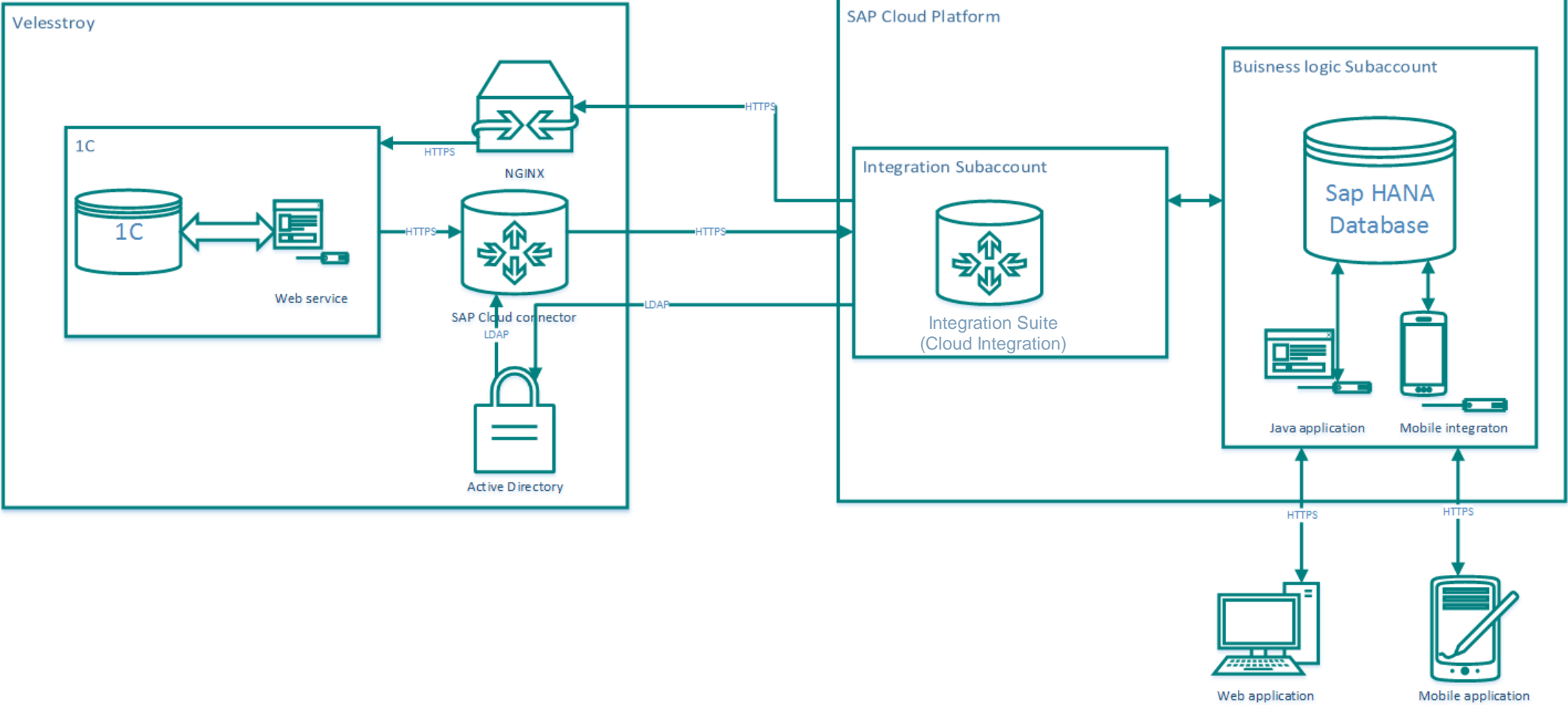
- Adoption of a fault-proof system
- Two-Way Integration of multiple Account Systems
- Development of new services within the ERP system
- Multiplication of the solution to other types of equipment and further expansion of analytics

## Human Empowerment

- Increased labor productivity
- Transition from the Waterfall to Agile methodology in business application development project management
- Reduction of the human factor and the chance of errors



# Architecture







# Deployment

Deployment status      Live

Date                      11/11/2019

Number of users      ~51

## SAP technologies used:

	SAP product	Deployment status (live or proof of concept [POC])	Contribution to project
1	SAP Cloud Platform	Live	Implement Cloud Native / Event Based Architectures
2	SAP Leonardo IoT	Live	Implementation of Internet of Things
3	SAP Cloud Platform Integration Suite	Live	Cloud Integration

If you have used one of the services or support offerings from SAP Digital Business Services during the implementation or deployment phase, please select with ☒ one or more of the following offerings:

☐ SAP MaxAttention™

☐ SAP ActiveAttention™

☐ SAP Advanced Deployment

☐ SAP Value Assurance

☐ SAP Model Company

☐ Others:

☐ SAP Innovation Services

☐ SAP Innovative Business Solutions



# Advanced Technologies

The following **advanced technologies** were part of the project.

	Technology or use case	Yes or No	Contribution to project
1	3D printing	No	
2	Blockchain	No	
3	Internet of Things (IoT)	Yes	Represents part or all of a long term, multiple phase strategic initiative or plan
4	Machine learning or AI	No	
5	Conversational AI	No	
6	Robotic process automation	No	
7	Data anonymization	No	
8	Augmented analytics	No	