Sports Analytics and Insights with Connected Training

Markus Richter, SAP
Introduction to Deutscher Ruderverband (DRV)

Deutscher Ruderverband (English: German rowing federation; [http://www.rudern.de/](http://www.rudern.de/)):

- It is the largest rowing federation in the world.
- It is one of the most successful rowing federations in the world.
- It was founded in 1883 in Cologne, and is therefore the oldest sport federation in Germany.
- Rowing has been part of the Olympic Games since 1896.
- Starting with the Olympic Games in Beijing in 2008, rowing has also been part of the Paralympic Games.
- There are more than 600 rowing clubs in Germany with over 83,000 members.
- DRV is one of the most successful national sport federations in Germany.
The Role of Technology and Digital Transformation Within the DRV
Role of technology and digital transformation

- Using technology in rowing is key to competing on a world-class level.
Role of technology and digital transformation

- Indoor rowing is not just another training exercise to simulate water rowing exercises; it has its own championships.
IoT Co-Innovation Project with DRV
Internet of Things (IoT) project

Key issues:

- Training locations are distributed across Germany.
- The national head coach specified an overall training plan but the boats coaches turn this plan into operational training exercises.
- Quite often the coach is not present while the exercises are being done.
Objective of the solution

Provide a holistic view on various sport-related aspects of each athlete
- General attributes such as weight, height, address, and so on
- Injuries
- Performance diagnostic
- Training management

Provide automatic tracking of all exercises
- Track types of exercises: weight lifting, general endurance, rowing, ergometer
- Identify successor exercises based on the individual’s strengths and weaknesses
- Provide some options for the athlete if measurement devices are used
Solution:
SAP Sports One
SAP Sports One
SAP Sports One
SAP Sports One
Benefits
Benefits

Objective measurements allow:
- Training program adjustments on shorter feedback cycles
- Training program adjustments on personalized strength and weaknesses

SAP’s IoT infrastructure provides:
- A scalable and secure platform with enterprise messaging
- Real-time data analysis
Benefits

- DRV trust in SAP
- A solution for DRV that will last for the next two Olympic decades
Solution architecture
SAP Enterprise Messaging

SAP Cloud Platform
(Micro) Services

SAP Enterprise Messaging

SAP HANA platform
Data management | Application | Analytical | Experience services
Mobile services | Design and development | Security | Management

Any database

Hadoop

SAP S/4HANA

SAP Vora
**DEMO** – Real-time dashboard with SAP Leonardo Internet of Things

### ANJA NOSKE - Rowing Ergometer Demo
@ SAP Leonardo Conference 2017

<table>
<thead>
<tr>
<th>State of 5 min race</th>
<th>Heart Rate</th>
<th>Current Pace (sec/500m)</th>
<th>Foot Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>145 bpm</td>
<td>126 s/m</td>
<td>8.45 N</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speed (m/sec)</th>
<th>Current Stroke Rate/min</th>
</tr>
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<tbody>
<tr>
<td>3.96 m/s</td>
<td>27 s/m</td>
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</table>

Various types of sensor information
DEMO – Analytics with SAP Leonardo Analytics

Select the runs you want to compare

Average values

Split each KPI for pattern recognition
Takeaways

- The IoT is a key success factor in competing on a world-class level.
- DRV considers SAP to be a trusted partner for long-term approaches (next two Olympic cycles)
- SAP Leonardo offers a combination of machine learning, PaaS, analytics, IoT, Big Data, and blockchain.
Thank you.

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