

Road closed

Order ready

Climate data
ready for retrieval

Attention:
Accident!

Machine
maintenance
pending

Dieses Projekt wird unterstützt durch:



EFRE.NRW
Investitionen in Wachstum
und Beschäftigung



EUROPÄISCHE UNION
Investition in unsere Zukunft
Europäischer Fonds
für regionale Entwicklung

Ministerium für Wirtschaft, Energie,
Industrie, Mittelstand und Handwerk
des Landes Nordrhein-Westfalen



Photo: Rainer Sturm / Pixello

Das Kompetenzzentrum Wald und Holz 4.0

Center of Excellence for Forestry 4.0

03.03.2020 – ROSEWOOD4.0 – 2nd validation Workshop, Central Western Hub
Frank Heinze

Agenda

Center of Excellence for Forestry 4.0

Technological Base: Digital Twins and Smart Systems Service Infrastructure

Applications: Smart Forest Labs

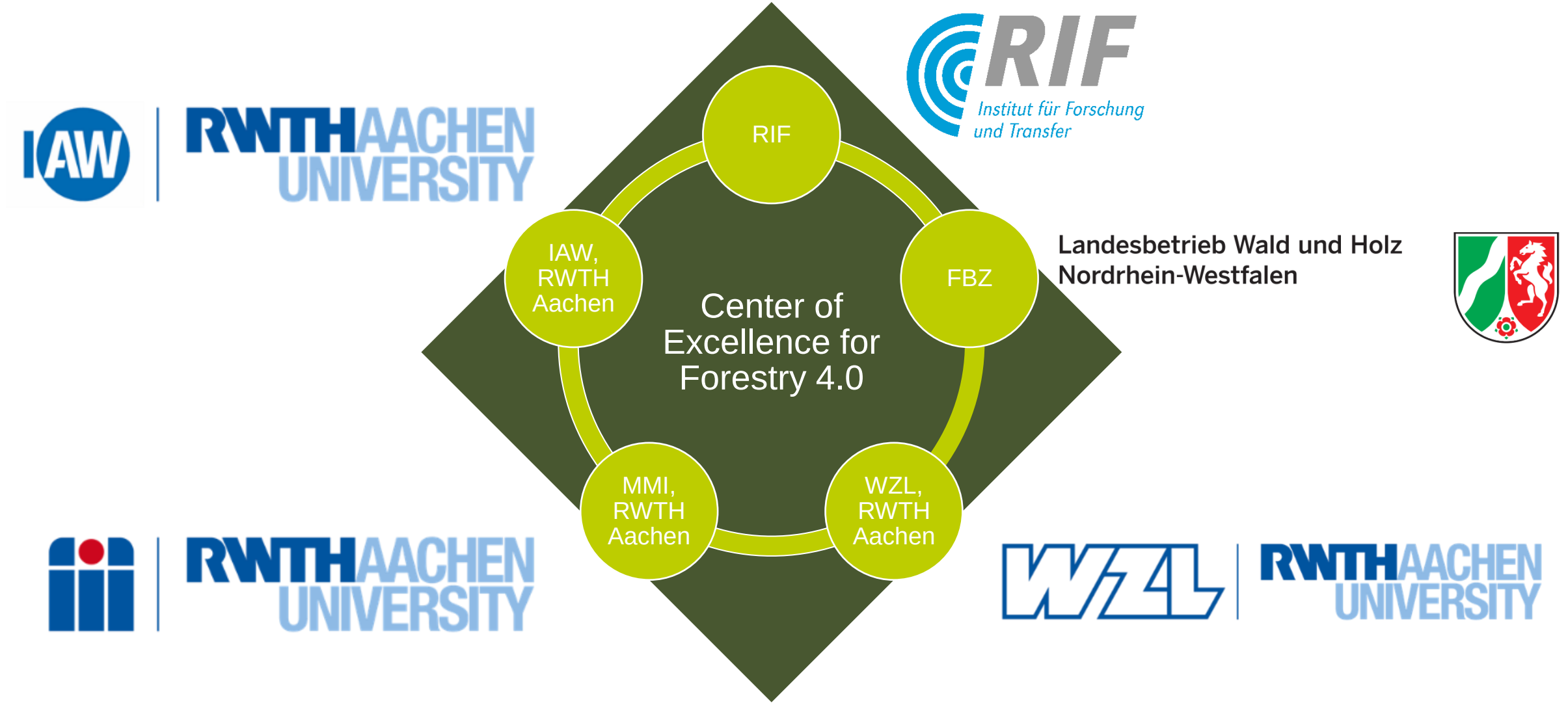
KWH4.0 Academy

Summary

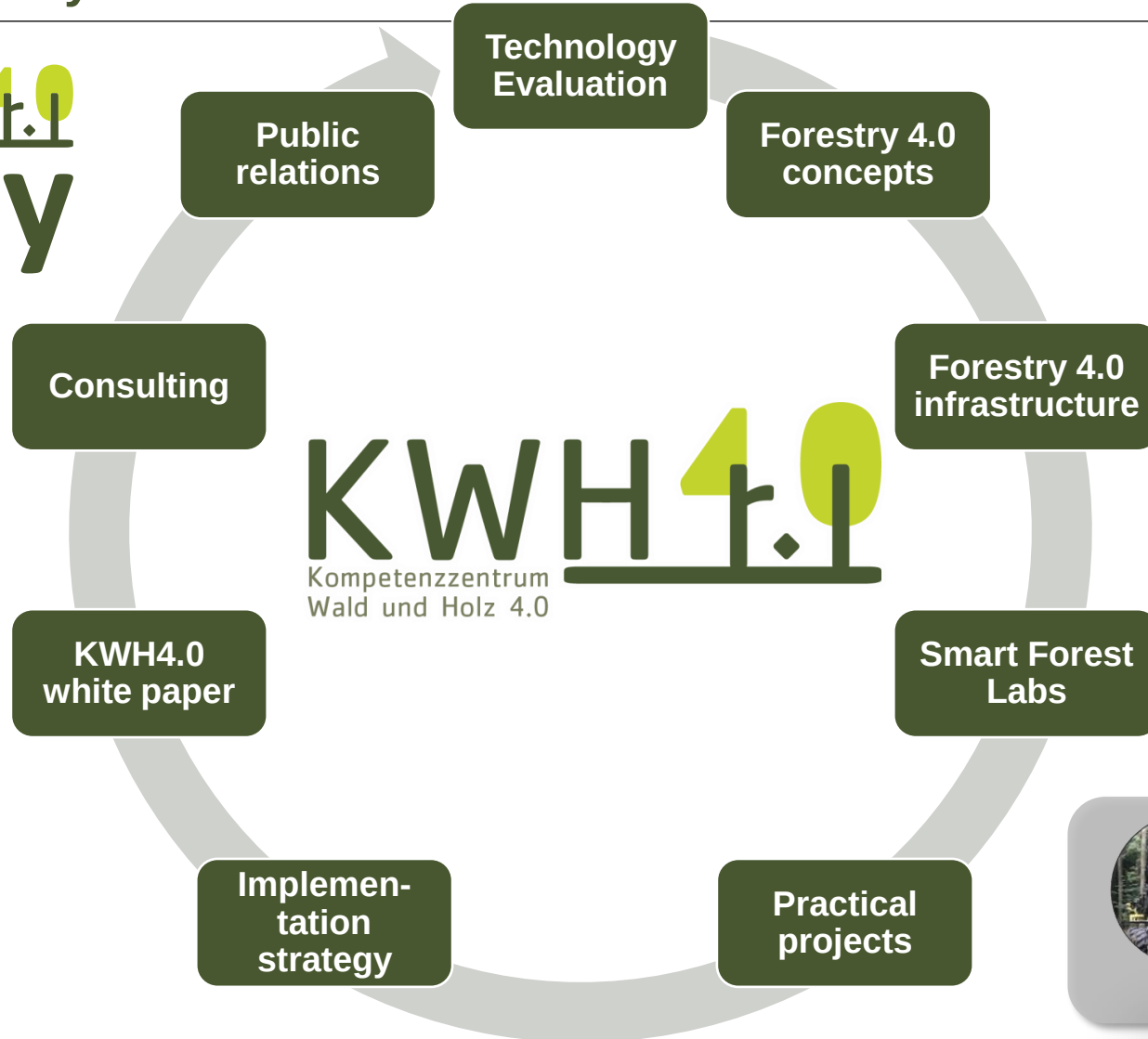
Kompetenzzentrum Wald und Holz 4.0 (KWH4.0)

Center of Excellence for Forestry 4.0

Project partners



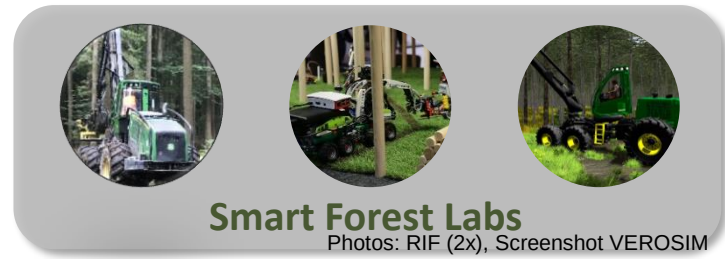
KWH4.0 – Fields of activity



Smart Systems Service
Infrastructure



www.kwh40.de



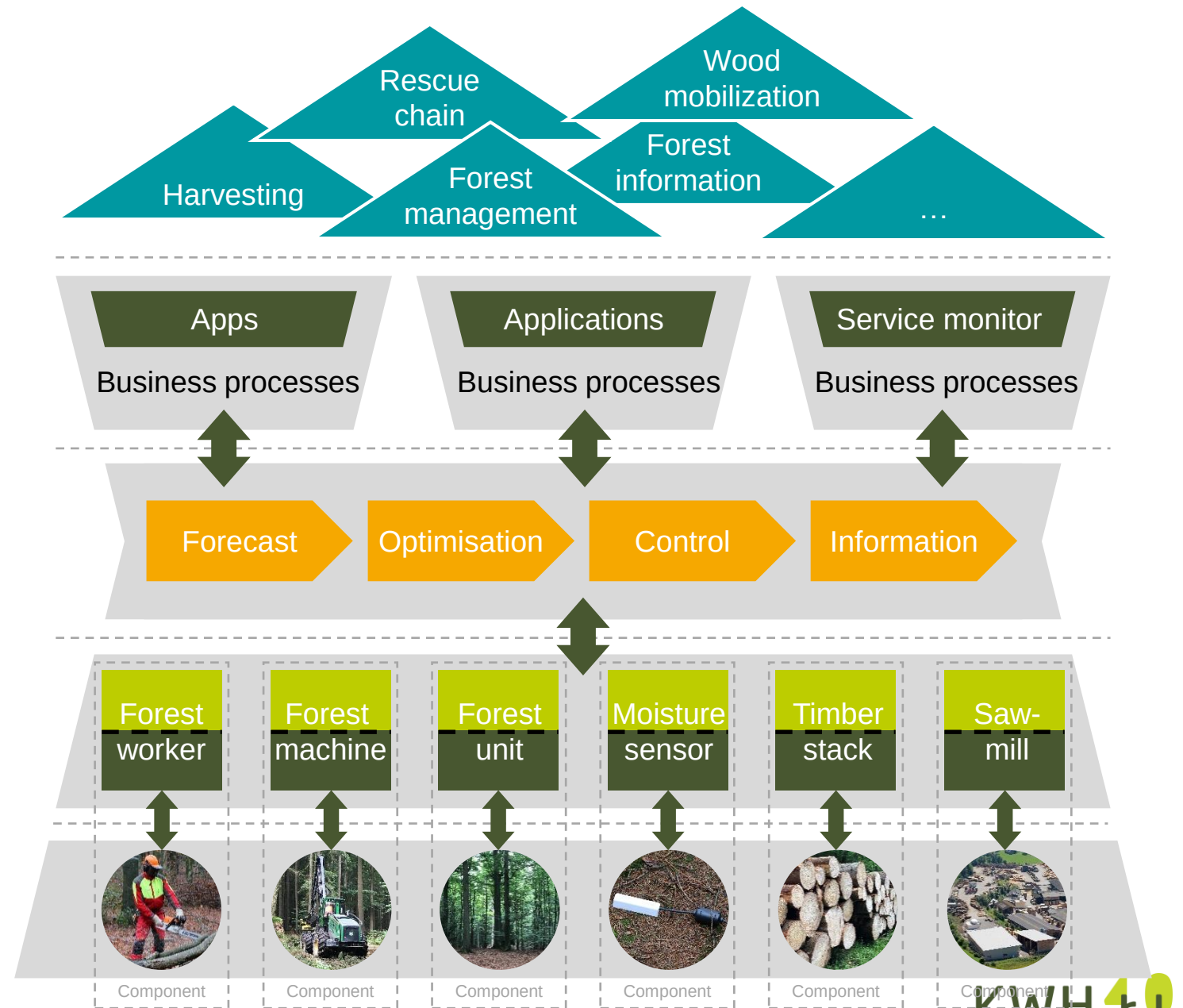
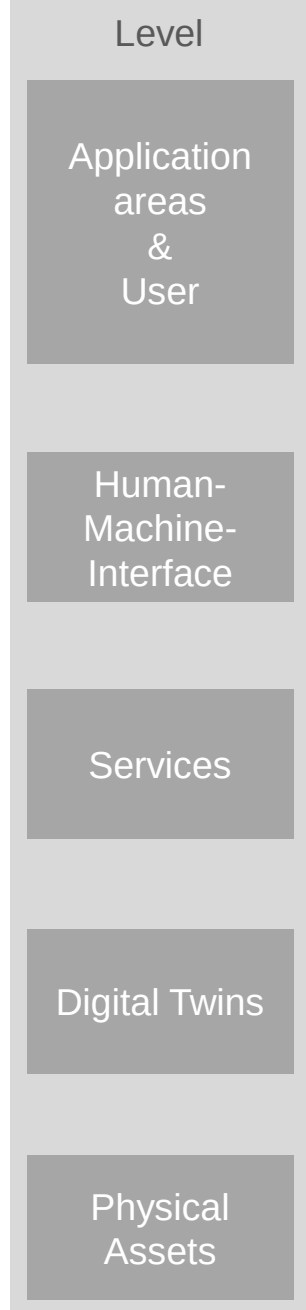
Some of our industrial partners

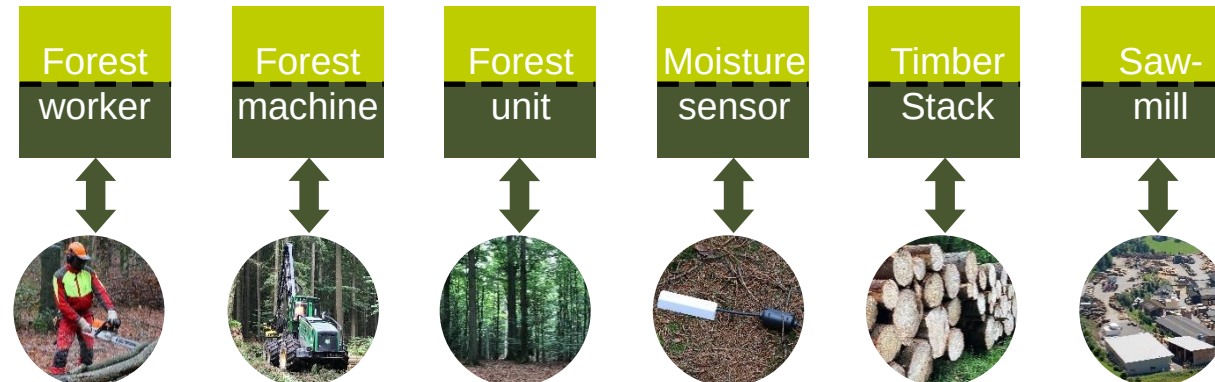
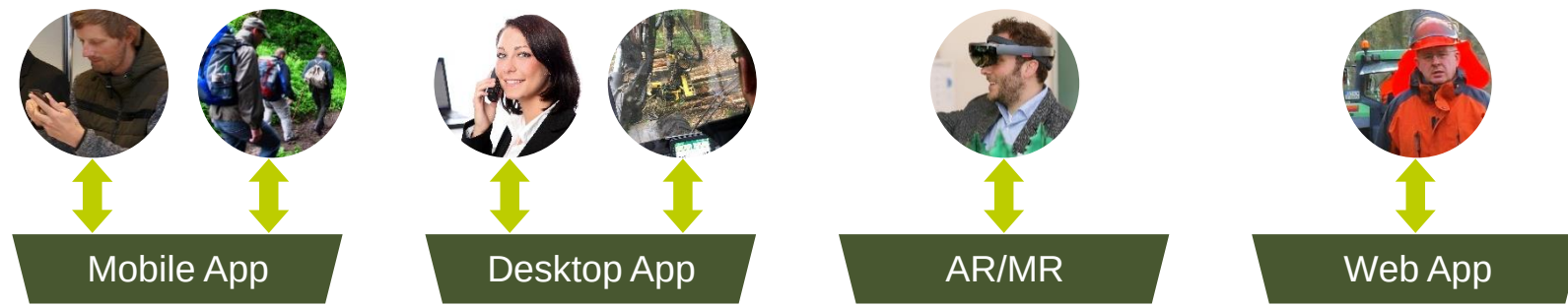


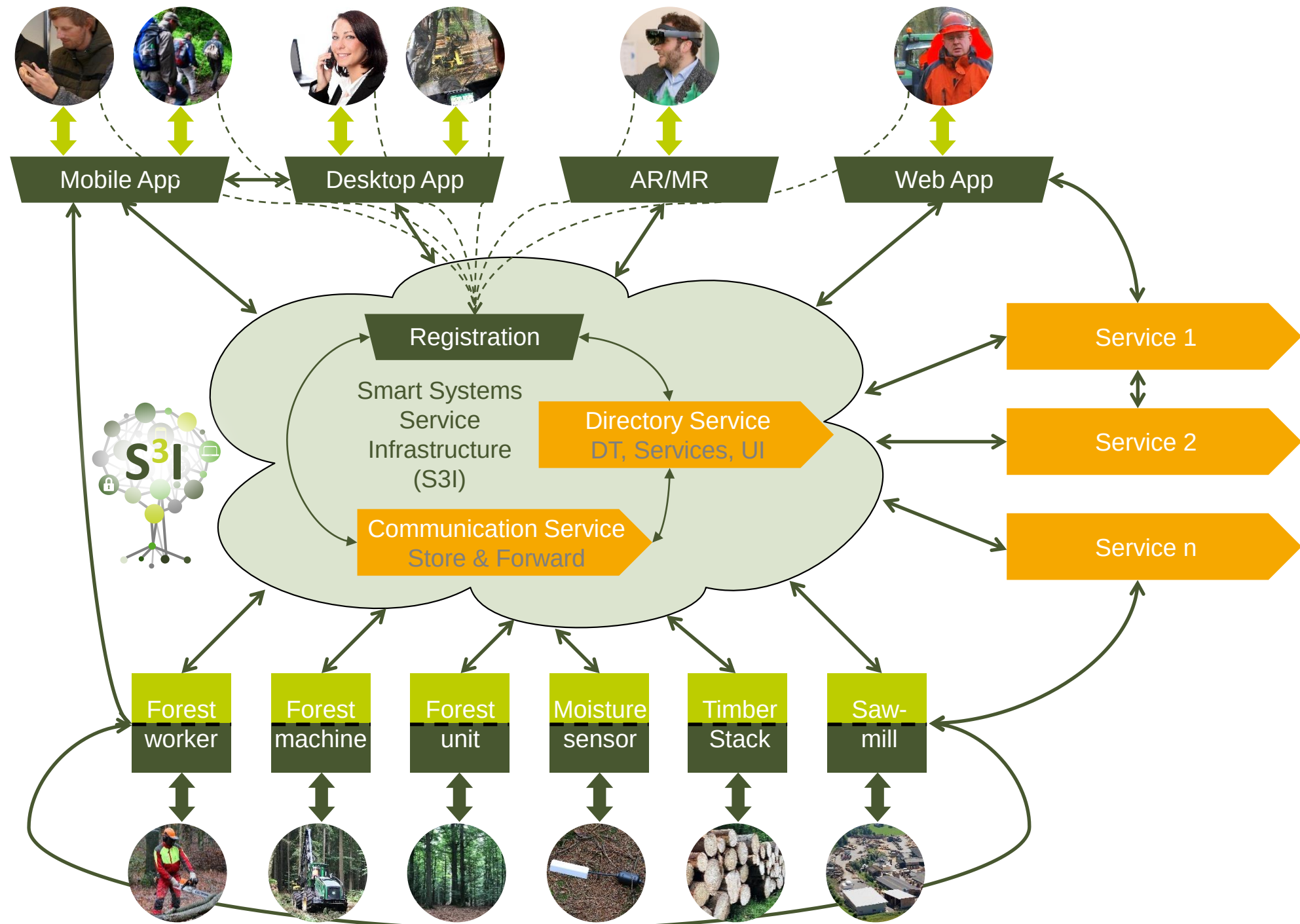
Technological Base: Digital Twins and S³I

Smart Systems Service Infrastructure (S³I)

A communication and network infrastructure for Forestry 4.0

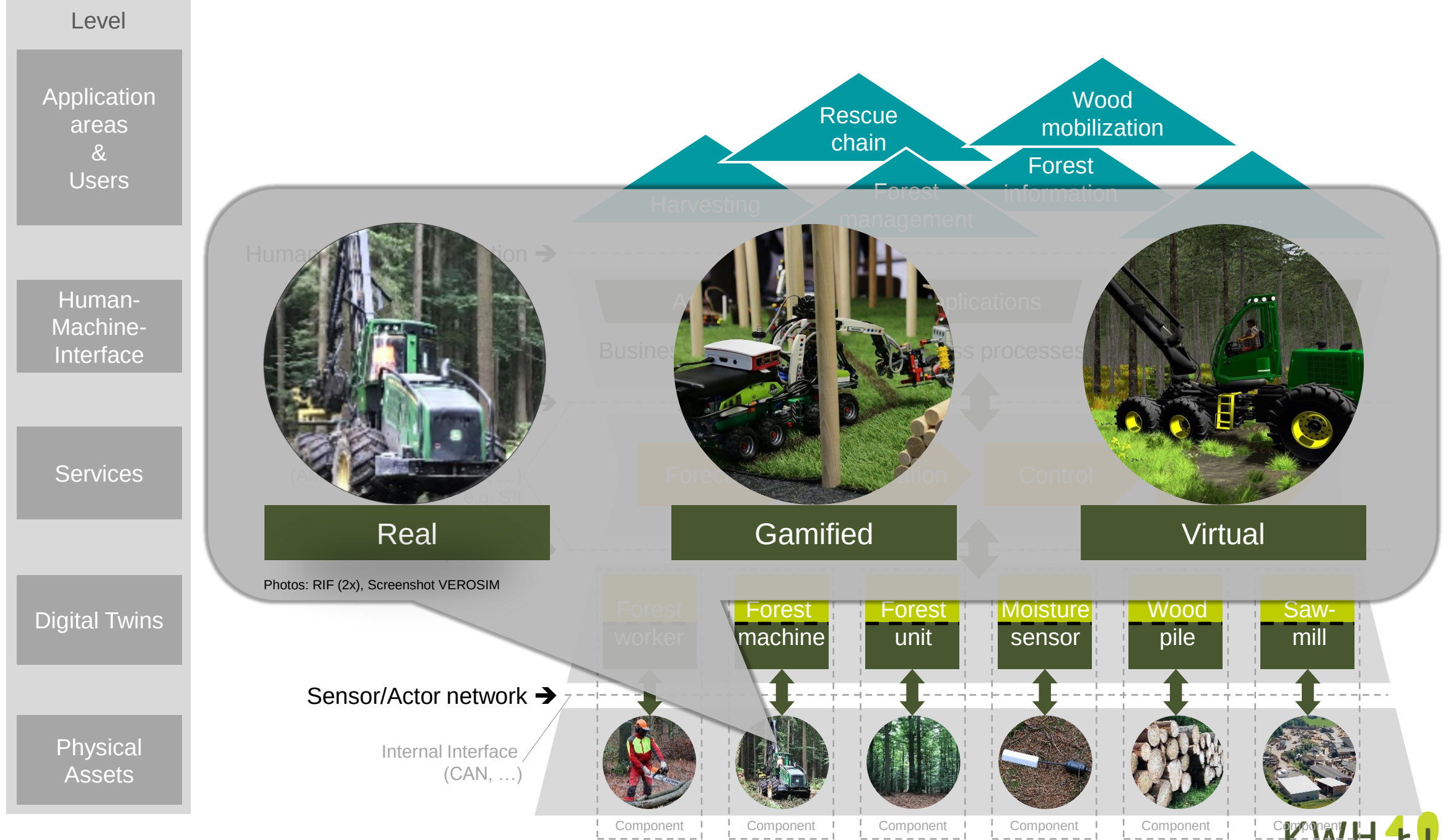






Applications: Smart Forest Labs

Infrastructure for Forestry 4.0



Real Smart Forest Lab

Smart Forest Worker

- Concept for digital support of forest workers

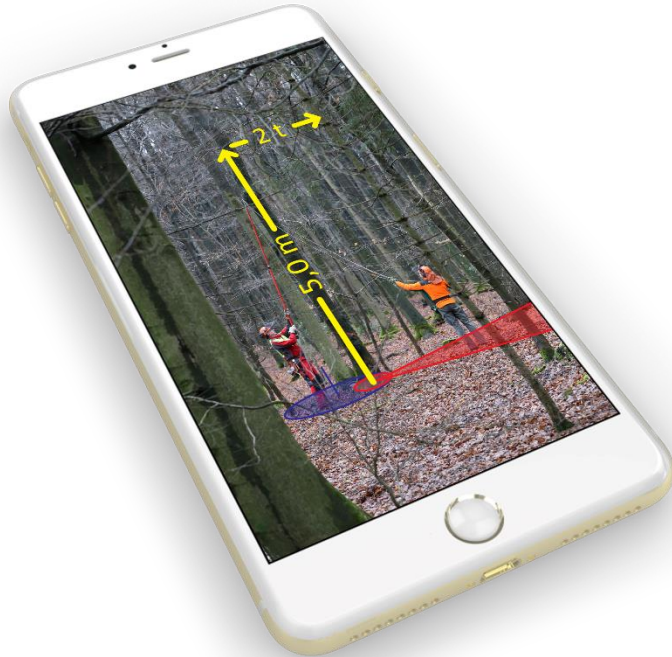


Photo: A. Böhm, RIF



Photo: A. Bücken, MMI

Gamified Smart Forest Lab



Photos: RIF

VEROSIM

Experiments

Stop

Pause

Start

Forwarder Digital Twin

The Forwarder Digital Twin accepts forwarding jobs and which are carried out according to the parameters given there. The forwarder receives forwarding jobs from a connected harvester.

S3I Settings

Identity Provider
ldp.s3i.vswf.dev

Directory
dir.s3i.vswf.dev

Forwarder Digital Twin Settings

Thing Identifier
s3i:08bfb8c98-ad4e-4bc1-b823-7667e73688ac

Secret
71ca6a5a-c93d-1237-9e58-e810541a5eac

DT Cloud
ws://137.226.137.145:12345

CONNECT

DISCONNECT

Harvester Digital Twin Settings

Thing Identifier

Current Status

Payload: 0 kg

Tank Filling level: 100 l

Weight: 15000 kg

Job List

StatusSegment

Log List

DiameterLengthType

Map

Alter HolwegRehbockswegHirschbergweg



VEROSIM

Experiments

Stop

Pause

Start

Harvester Digital Twin

The harvester Digital Twin accepts felling jobs and which are carried out according to the parameters given there. The harvester generates forwarding jobs for a connected forwarder.

S3I Settings

Identity Provider
ldp.s3i.vswf.dev

Directory
dir.s3i.vswf.dev

Harvester Digital Twin Settings

Thing Identifier
s3i:74c37a5c-575e-46c9-a854-25067cf2b69a

Secret
51fe6a5a-c975-48e7-9a08-e094699a5a0a

DT Cloud
ws://137.226.137.145:12345

CONNECT

DISCONNECT

Forwarder Digital Twin Settings

Thing Identifier

Current Status

Engine speed: 3200 rpm

Operating hours: 3032.1 h

Dimensions: H: 4 m, L: 8 m, B: 3 m

Weight: 23456.7 kg

Job List

Forest Segment
[s3i:cb603702-83a0-49c8-a398-80ab37b56c2a]]

Log List

DiameterLengthType

Map

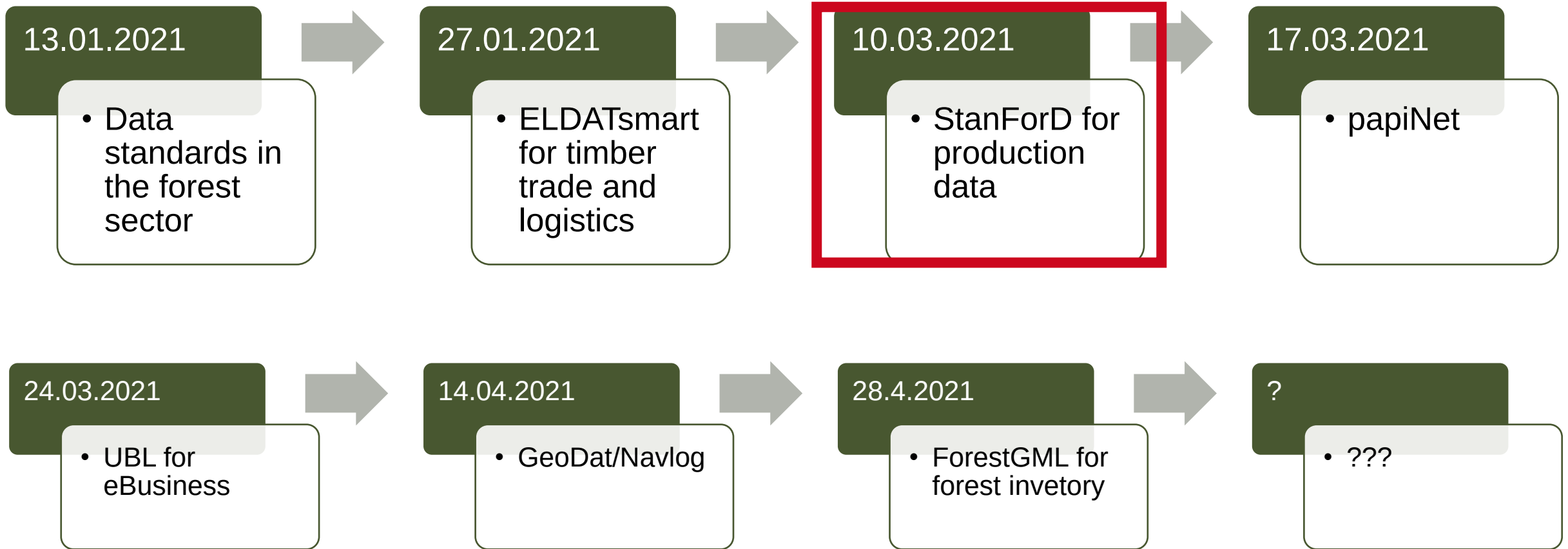
Alter HolwegRehbockswegFuchs



KWH4.0 Academy

Infrastructure for knowledge transfer

Seminar series „Data standards in Forestry 4.0“



Registration for free: www.kwh40.de, Presentations are in German

Summary

Let's make Forestry 4.0 become reality together now!



Develop and document basic technologies

Support implementation

Provide development and test environment

KWH4.0
Academy



Smart Forest Labs

Photos: RIF (2x), Screenshot VEROSIM

Thank you for your attention!

- Kompetenzzentrum Wald und Holz 4.0
- c/o RIF Institute for Research and Transfer e.V. (Project coordination)
- Joseph-von-Fraunhofer-Straße 20, D-44227 Dortmund
- www.kwh40.de
- Contact person : Dipl.-Ing. Frank Heinze
- Tel. +49 (0) 231 9700-781
- frank.heinze@rt.rif-ev.de

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