





# **ATO Betuweroute**

Working Group - Overview



## **Working Groups Overview**



WORKING GROUPS	DB Cargo LEAD	DB Cargo LEAD CONTACT
Human Factors	Daniel Gaszczak	Daniel.Gaszczak@deutschebahn.com
Safety, Approval & Security	Dirk Leinhos (ggf. Tobias)	Dirk.Leinhos@deutschebahn.com
Specification	Baseliyos Jacob	baseliyos.jacob@deutschebahn.com
Operation Concept & Driving Rules	Daniel Gaszczak	Daniel.Gaszczak@deutschebahn.com
Vehicle Integration	Thorsten Gerlach	thorsten.gerlach@deutschebahn.com
Testing	Thorsten Gerlach	thorsten.gerlach@deutschebahn.com

### General rules and guidelines for the working groups



- All expert group meetings will be scheduled and executed by DB Cargo
  - If DB Cargo lead is not available, the meeting will either be canceled, shifted, or executed by the deputy of the lead
- In case you can not participate, please notify the lead and deputy 24 hours prior to the meeting
  - Please also name a deputy that can represent you
- The lead and deputy are in charge for the protocols as well as the documentation and tracking of the to-dos
- Protocols and to-dos will be sent out latest 24 hours after the meeting
- We want to **timebox the meetings**, so we start and end meetings on time
- Stay on the topic and be prepared for the meeting
- Silence = Agreement
- Make sure to be **punctual** to the meeting
- **Turn camera on** (if technical background allows)
- We all want to **have fun!**



### **Human Factor**



#### **GOALS & TOPICS**

- Requirement Assessment
  - Operational Environment
  - Human-Machine-Interface
- Design Concepts control environment
  - Two stage prototyping process for operational environment and human-machine-interface
- Human Factors during implementation
  - Support for the supplier to ensure requirements are incorporated in user-friendly way
- Usability Test
  - Testing the suppliers RSC workplace
- Evaluation
  - Procedure
  - Implementation
  - Analysis
  - Guidance

### **OUT OF SCOPE**

- tbd

### **Human Factor – Dates & Participants**



DATES

**PARTICIPANTS** 

**Start:** End January 2023

**Frequency:** tbd in first meeting

**Duration:** tbd in first meeting

### **DB** Cargo

Lead

- Deputy of lead

- Expert Expert Expert Expert Daniel Gaszczak Thorsten Gerlach Niels Brandenburger (DLR)

Lido Costa Laura Quante Thorsten Kühnapfel daniel.gaszczak@deutschebahn.com thorsten.gerlach@deutschebahn.com

Niels.Brandenburger@dlr.de lido.costa@iinet.net.au laura.quante@dlr.de

thorsten.kuehnapfel@deutschebahn.com

### **GTS Deutschland**

tbd

### **REMOOT**

- tbd

Jeroen Lebouille

jeroen@mobility42.nl



### **Safety & Security, Approval**



#### **GOALS & TOPICS**

- risk management procedure (RMP) covers all
  - safety issues and security issues
  - RMP is closely aligned with the AMP
  - involving the AsBo
- approval management procedure (AMP) and involving the NoBo and DeBo
- necessary documents for evidence for independent assessment by AsBo to achieve the exemption approval of test runs in 2025
- safety plan (including the safety and security issues) → process until the revert to pre-state!
- approval plan
- description of all changes
- significance check, checking the safety-relevance
- requirements capture (at least TSI, RIS, EN → what else? → operational regulations)
- system definition
- hazard identification, considering the preliminary hazard log
- risk estimation and evaluation
- safety-/security-related requirements, safety-related application conditions (SRAC) for the test runs
- reports of verification and validation
- compilation of all evidences for assessment done by AsBo
- monitoring reports while the test runs

#### **OUT OF SCOPE**

 risk management for project risk, organisational risks, contract risks,



### Safety & Security, Approval – Dates & Participants



Start: 2. Week of January 2023

Frequency: Bi-Weekly JF
Weeky Working Meeting

**Duration:** 1h for Bi-Weekly JF

2h for Weeky Working Meeting

### **DB** Cargo

Lead

- Deputy of lead

Operational expert
 Operational expert
 Operational expert

approval manager

Dirk Leinhos Lido Costa

Thorsten Gerlach Roy Germain Daniel Gaszczak Baseliyos Jacob dirk.leinhos@deutschebahn.com

lido.costa@iinet.net.au

thorsten.gerlach@deutschebahn.com roy.germain@deutschebahn.com daniel.gaszczak@deutschebahn.com (preliminary responsibility)

### **GTS Deutschland**

- Safety manager

- Approval manager

Advisor safety/approval

Safety/security expert

tbd

Vladimir Labaj Kreisimir Cacic Timo Strobel Wolfgang-Reza Sharavi

Cristiana Perlongo

vladimir.labaj@urbanandmainlines.com kresimir.cacic@urbanandmainlines.com timo.strobel@urbanandmainlines.com wolfgang-reza.sharavi@urbanandmainlines.com cristiana.perlongo@urbanandmainlines.com

#### **REMOOT**

safety manager

security expert

Jørgen Heinrich Niels van Damme jorgen@mobility42.nl niels@otiv.ai



### **Specifications**



#### **GOALS & TOPICS**

### Scope & Goals

- Reference Architecture
- Interfaces between Lot 1 & Lot 2
- Define artefacts and specification content and structure
- Train Interface with Lot 1 (Lot 2)

### Milestones/deliveries

- Align on reference architecture (see annex F)
- Define critical interfaces between Lot 1 and Lot 2 incl. Vehicle interface (see annex F)
- Define applied standards & versions (see annex F)
- Gap Analysis of standard interfaces & tbd interfaces
- Define artefacts and documents delivery, process, orga, structure (see annex D.1 and A.4 of the contract)

### Current status/ problem statement

- Deliver reference specification for European standard
- Define organisation and process for spec
- Create artefacts and documents for spec

#### Risks:

- Different spec approaches in each company

### **OUT OF SCOPE**

- ATO TS
- ETCS Kernel

### **Specifications – Dates & Participants**



**Start:** End January 2023

KW 4

**Frequency:** Bi-Weekly

**Duration:** 3 hours

### **DB** Cargo

Lead

Deputy of lead

Expert Expert Expert Expert

Expert

**Baseliyos Jacob Roy Germain** 

Daniel Gaszczak Lido Costa Thorsten Gerlach

Fritz Köck Thorsten N.N.

baseliyos.jacob@deutschebahn.com roy.germain@deutschebahn.com daniel.gaszczak@deutschebahn.com

lido.costa@iinet.net.au

thorsten.gerlach@deutschebahn.com

koeck-consulting@fritz-koeck.de

thorsten.kuehnapfel@deutschebahn.com

#### GTS Deutschland

Expert

Expert

Expert

Wolfgang-Reza Sharavi Cristiana Perlongo Gernot Kuffler

wolfgang-reza.sharavi@urbanandmainlines.com cristiana.perlongo@urbanandmainlines.com gernot.kuffler@urbanandmainlines.com

#### REMOOT

Expert

Expert

Expert

Jørgen Heinrich Niels van Damme Philipp Goetz

jorgen@mobility42.nl niels@otiv.ai philipp.goetz@rse-rail.com



### **Operation Concept & Driving Rules**



#### **GOALS & TOPICS**

- Describing the Operational Environment for ATO Operated Trains
  - Describing today's available infrastructure and its foreseen operational changes to make ATO feasible
  - Stating operational roles and responsibilities
  - Clarifying roles in an ATO operated environment
  - System description
- ATO Onboard Operation
  - System description for operational purposes
  - Description of human-machine-interface
  - Stating Rules for normal, fall back and emergency operation
- RSC Operation
  - System description for operational purposes
  - Description of human-machine-interface
  - Stating Rules for normal, fall back and emergency operation

### **OUT OF SCOPE**

- tbd

### **Operation Concept & Driving Rules – Dates & Participants**



**Start:** End January 2023

**Frequency:** Every two month

**Duration:** 1 hours

### **DB** Cargo

Lead

Deputy of lead

Expert

Expert

Expert

Expert

**Daniel Gaszczak** Thorsten Gerlach

Lido Costa

Roy Germain

Niels Brandenburger

Thorsten Kühnapfel

daniel.gaszczak@deutschebahn.com

thorsten.gerlach@deutschebahn.com

lido.costa@iinet.net.au

roy.germain@deutschebahn.com

niels.brandenburger@dlr.de

thorsten.kuehnapfel@deutschebahn.com

### **GTS Deutschland**

Expert

Expert

Wolfgang-Reza Sharavi

Timo Strobl

wolfgang-reza.sharavi@urbanandmainlines.com

timo.strobel@urbanandmainlines.com

### **REMOOT**

Expert

Philipp Goetz

philipp.goetz@rse-rail.com

### **Vehicle Integration**



### **GOALS & TOPICS**

### Scope & Goals

- Integration of Lot 1 and Lot 2 in vehicle
- Definition of available space in vehicle
- Creation of an integration concept
- Integration of vehicle functions
- Integration of RSC functions

### Milestones/deliveries

- Integration concept
- Integrated lot 1 and lot 2

\_

### Current status/ problem statement

Vehicle not procured

#### Risks:

- Limited space
- Complexity of integration

### **OUT OF SCOPE**

- tbd

### **Vehicle Integration – Dates & Participants**



**Start:** End January 2023

**Frequency:** Once per month

**Duration:** 1 hours

### **DB** Cargo

Lead

Deputy of lead

Expert Expert

Expert

Thorsten Gerlach **Roy Germain** Baseliyos Jacob

Fritz Köck

Thorsten Kühnapfel

thorsten.gerlach@deutschebahn.com

roy.germain@deutschebahn.com

baseliyos.jacob@deutschebahn.com koeck-consulting@fritz-koeck.de

thorsten.kuehnapfel@deutschebahn.com

### **GTS Deutschland**

Expert

Expert

Expert

Wolfgang-Reza Sharavi Cristiana Perlongo

Angelika Barth

wolfgang-reza.sharavi@urbanandmainlines.com cristiana.perlongo@urbanandmainlines.com angelika.barth@urbanandmainlines.com

### **REMOOT**

Expert

Expert

Philipp Goetz lørgen Heinrich philipp.goetz@rse-rail.com jorgen@mobility42.nl