Appendix C: System Description

Market dialogue, November 2026

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Questions regarding confidentiality can be directed to:

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1

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2

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The confidentiality obligation also applies after the end of the market dialogue, unless Odense Letbane notifies otherwise in writing, or the information lawfully becomes publicly available without breach of the confidentiality obligation.

Appendix C – System Description

APPENDIX C
Purpose

Appendix C describes the systems in Odense Letbane's E1 and the possible scenarios for the E2 systems.

The appendix shows the delimitation and interfaces of the E1 systems at a high level and at a mid-level, and explains the abbreviations used.

The E2 scenarios describe whether the E2 systems are the same as the E1 systems, partly the same or entirely new, and what advantages and disadvantages each scenario is assessed to have.

The appendix also contains an introduction to Odense Letbane's operational landscape and initial compatibility requirements for the new trains.

The technical content of the appendix is in English.

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E1 TS scope of supply: OCC, Infrastructure and On-board.

2 **E1 Systems' (high-level) interfaces overview** — Page 5
High-level overview of the E1 systems' interfaces.

3 **E1 Systems' and E2** — Page 6
The E1 and E2 systems across the levels.

4 **E1 Systems' (mid-level) interfaces overview** — Pages 7-8
The E1 systems' interfaces at mid-level.

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Abbreviations and terms used in the appendix.

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Three scenarios for the E2 systems with advantages and disadvantages.

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8 **Initial compatibility requirements for the new Trains** — Page 12
Initial compatibility requirements for the new trains.

E1 Areas

E1
TS scope of supply

OCC

CMC

Infrastructure

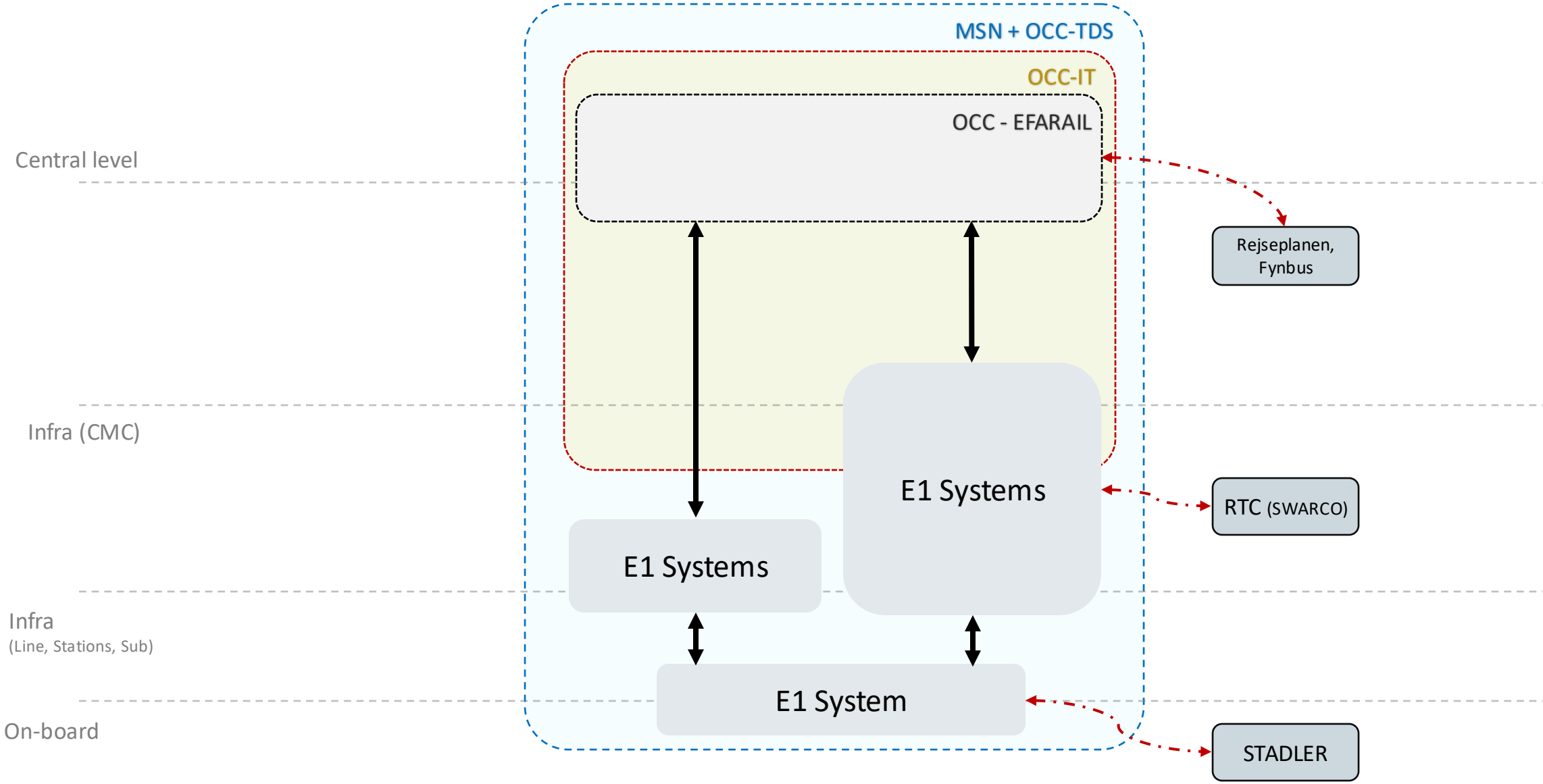
CMC

Mainline
(Line, Stations and Substations)

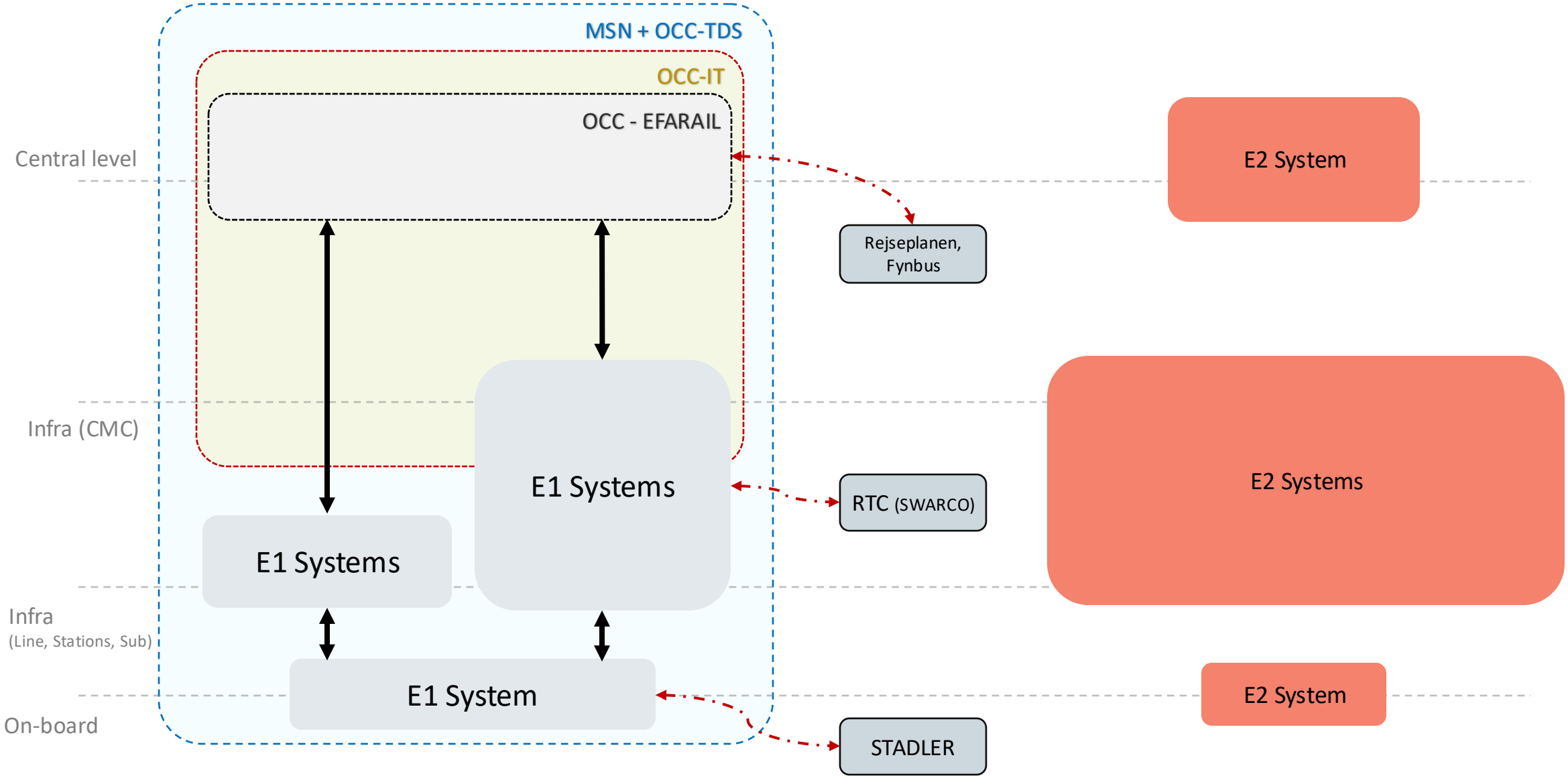
On-board

Trams

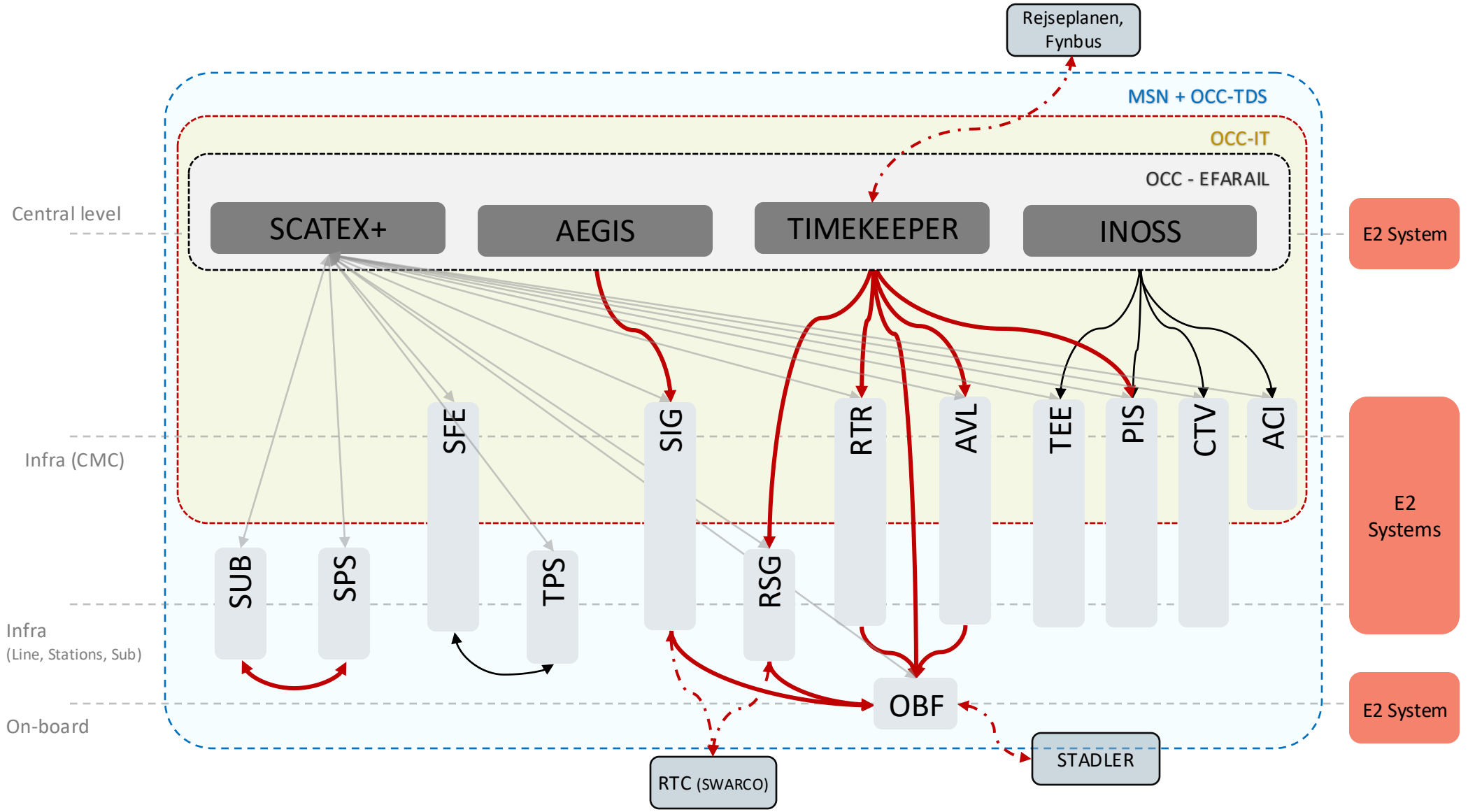
E1 Systems' (high-level) interfaces overview



E1 Systems' and E2

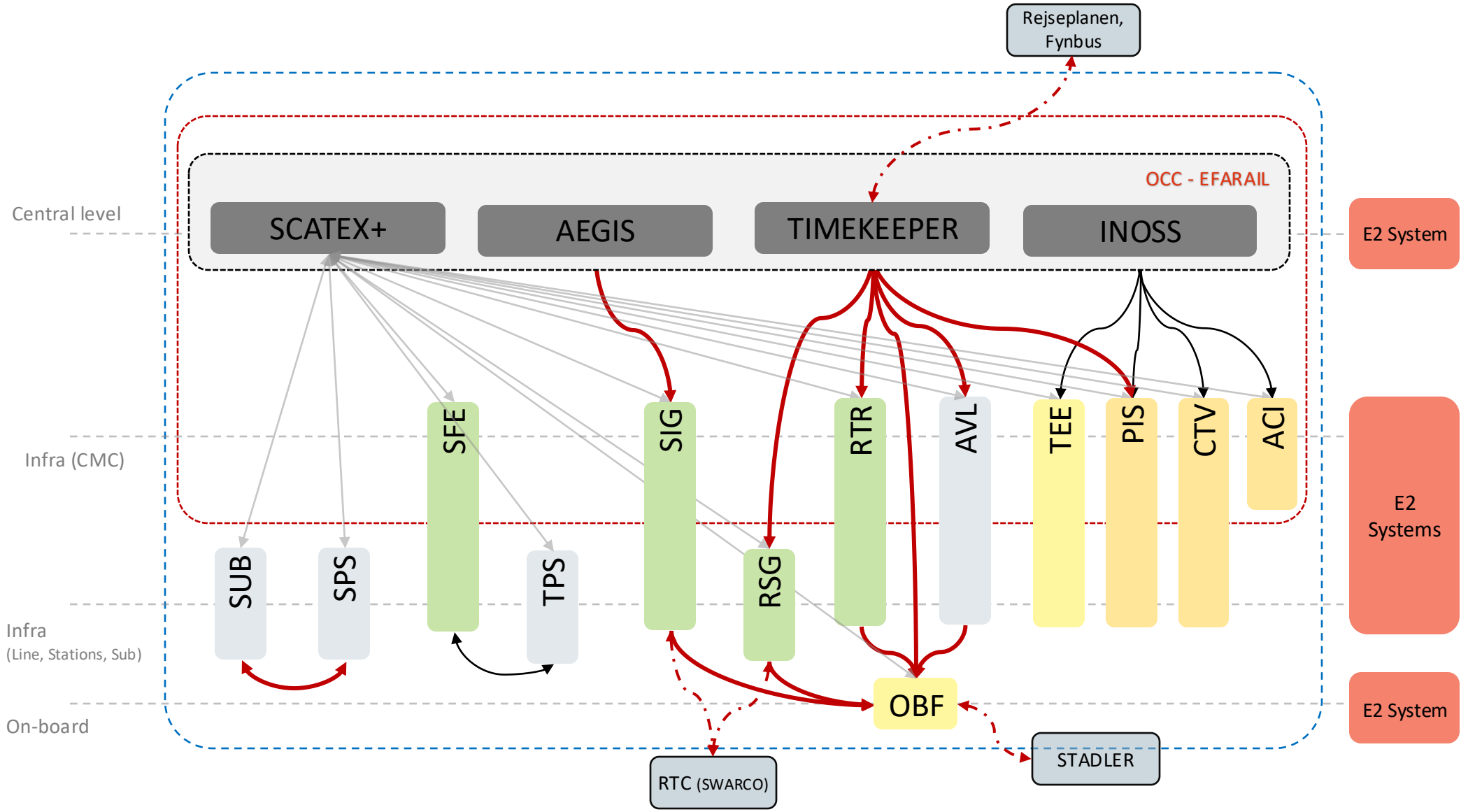


E1 Systems' (mid-level) interfaces overview



E1 Systems' (mid-level) interfaces overview

MSN | OCC-IT | OCC-TDS



Abbreviations

SYSTEMS	
ACI	Access Control System (CMC)
AVL	Automatic Vehicle Location System
CTV	Closed-Circuit TV
MSN	Multi Service Network
OCC	Operational Control Center (EFARAIL)
OBF	On-board Infrastructure (TS Supply)
PIS	Public Information System
RSG	Road Crossing Signalling
RTC	Road Traffic Controller (Odense Kommune - SWARCO)

SYSTEMS (CONTINUED)	
RTR	Radio TETRA
SFE	SCADA Fixed Equipment
SIG	Rail Interlocking Signalling
SPS	SCADA Power Supply
SUB	Substations
TDS	Time Distribution System
TEE	Telephone and Emergency System
TPS	Power Supply at Stations

EFACEC	
EFARAIL	EFACEC's Unified Platform
SCATEX+	EFACEC's SCADA
AEGIS	EFACEC's Signalling/Interlocking
TIMEKEEPER	EFACEC's AVL
INOSS	EFACEC's Complementary

E1 Systems' and E2 scenarios

SCENARIO #1
E2 systems the same as E1 Systems (continuation)

ADVANTAGES
- Adding more elements
- Less integration/migration needed
- Similar operational process
- Known systems / performance

DISADVANTAGES
- Dependence on one supplier
- Less opportunity for New Systems

SCENARIO #2
Some E2 systems the same as E1 Systems, and others new E2 systems

ADVANTAGES
- Keeping some existing interfaces
- Untied to a unique supplier

DISADVANTAGES
- Integrate new systems to existing infra
- More interfaces to manage
- Changes to current operation mode
- Potential impact on operation
- Medium integration needed
- Decommission existing systems

SCENARIO #3
All E2 systems are new (≠ E1)

ADVANTAGES
- Potential upgrade of technology

DISADVANTAGES
- More integration/migration needed
- Dependence on one supplier
- Change to operational mode
- New Systems (to know)
- Impact on operation

Introduction to the operational landscape of Odense Letbane



1

Network and potential services

The current network is the line from Hjallese via Korsløkke and Vesterbro to Tarup Center operated by line L1. With the extension of the network with the new infrastructure to Seden and Sukkerkogeriet, new lines can be implemented:
L2: Seden – Korsløkke – Vesterbro – Sukkerkogeriet
L3: Seden – Korsløkke – Hjallese
L1X; An additional peak hour service on the central part of the network from Parkering Syd via Korsløkke to Odense Banegård Center.
The exact timetable and operational concept is not decided yet. Expected planned headway is 3 minutes in the central part from Vesterbro to Korsløkke.

2

Maintenance

All trains are maintained at the workshop at Parkering Syd (two stops from Hjallese) that is also housing the OCC. Maintenance of the new Trains is under investigation in terms of workshop capacity and set-up. The current workshop is equipped with one track for the reprofiling of the wheels on the trains, two tracks with pits and roof access, and one track for lifting (no pit).
In general, there are two scenarios being investigated:
Rebuilding the existing workshop: Prolonging the existing tracks to facilitate existing fleet and the New Trains, adding one or two tracks with pit and roof access, and adding one additional track for lifting of the new Trains. Additional space for spare parts stock and workshop staff will be provided as well
Building a new workshop dedicated to the new Trains.

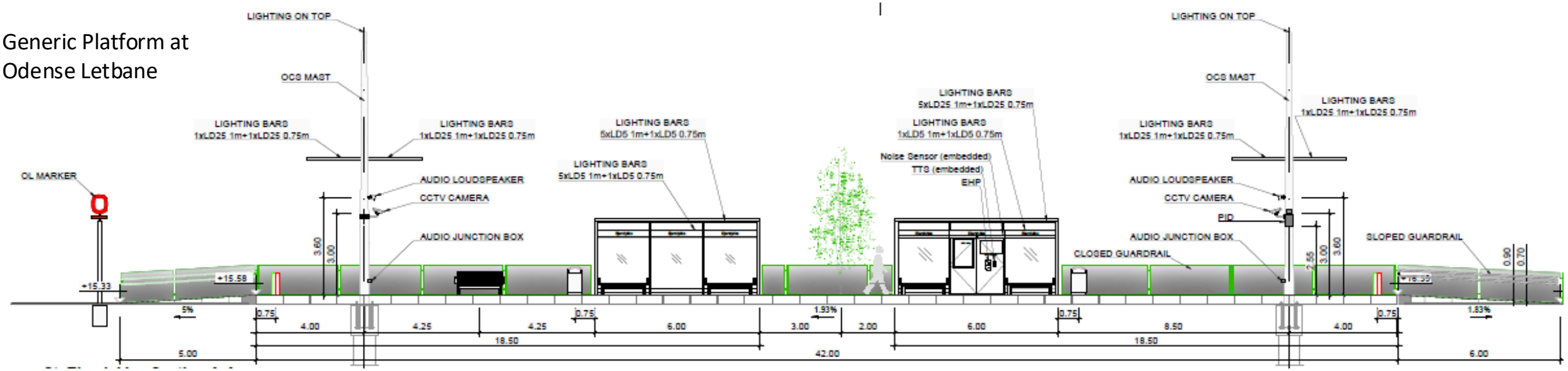
3

Maintainer

Maintenance is currently performed by the operator Keolis, who has subcontracted with Stadler Rail Service. It can be assumed that Odense Letbane will ensure that Stadler Rail Service will not get access to Trains or critical documentation from other suppliers.

Initial compatibility requirements for the new Trains

Generic Platform at Odense Letbane



New Trains

- Length optimized for platform length of 42 meters
- Width 2,650 mm
- Level free access from platforms of 300 mm above TOR
- 70 km/h
- Annual mileage up to 100,000 km in average
- Lifetime 30 years

Infrastructure

- Track gauge: 1,435 mm
- Voltage 750 V DC (Peaks of 1,000 V DC)
- Minimum curve radius 25 meter (depot) 27 meter in operation
- Vertical climb 40‰
- Operations on sight – with prioritization of signals at intersections