

# Intelligent Transport Systems

European Standardisation for



**WG2 – Architecture**

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# WG2 Charter

- Title: Architecture and Cross Layer
- The WG is responsible for:
  - ITS Communications Architecture
  - Cross Layer coordination
  - Service Access Points
  - Testing Framework
- Other roles:
  - Coordination point for European ITS Communications Architecture
  - Home for CALM conformance test standards and “legacy” standards

# WG2 Work Items

- WG2 has 36 active work items out of 82 registered in ETSI TC ITS
- prEN 302 665: Intelligent Transport Systems (ITS); Communications; Architecture
  - **Approved for EN circulation - first base standard from ETSI TC ITS to reach this status**
  - **Fully aligned with ISO CALM and COMeSafety**
- Formal test specifications
  - **Testing Framework**
  - **European DSRC (legacy)**
  - **ISO CALM**
- Service Access Point (SAP) work items related to Station Management

WI No.	Doc No.	Short title	STF	Rapporteur	Observation
DTS/ITS-0020002	TS 102 708-1-1	DSRC LLC PICS	372	Fausto Caneschi	for approval <a href="#">ITS(10)0027</a>
DTS/ITS-0020003	TS 102 708-1-2	DSRC LLC TSS&TP	372	Fausto Caneschi	for approval
DTS/ITS-0020004	TS 102 708-1-3	DSRC LLC ATS	372	Fausto Caneschi	for approval
DTS/ITS-0020005	TS 102 708-2-1	DSRC AL PICS	372	Fausto Caneschi	for approval
DTS/ITS-0020006	TS 102 708-2-2	DSRC AL TSS&TP	372	Fausto Caneschi	for approval
DTS/ITS-0020007	TS 102 708-2-3	DSRC AL ATS	372	Fausto Caneschi	for approval
DTS/ITS-0020008	TS 102 760-1	CALM 21218 ICS		Hans-Joachim Fischer	published
DTS/ITS-0020009	TS 102 760-2	CALM 21218 TSS&TP	365	Hans-Joachim Fischer	published
DTS/ITS-0020010	TS 102 797-1	CALM 24102 ICS	YES	Hans-Joachim Fischer	STF to be requested
DTS/ITS-0020011	TS 102 797-2	CALM 24102 TSS&TP	YES	Hans-Joachim Fischer	STF to be requested

WI No.	Doc No.	Short title	STF	Rapporteur	Observation
DTS/ITS-0020012	TS 102 665	Architecture		Hans-Joachim Fischer	for approval <a href="#">ITS(10)0024r1</a>
DTR/ITS-0020013	TR 102 707	ITS OID		Hans-Joachim Fischer	published
DEN/ITS-0020014	EN 300 674-1	HDR DSRC EN	YES	Fausto Caneschi	STF requested
DTS/ITS-0020015	TS 102 723-1	Cross layer architecture		Hans-Joachim Fischer	on hold until approval of TS 102 665
DTS/ITS-0020016	TS 102 723-2	Cross layer MIB		Hans-Joachim Fischer	on hold until approval of TS 102 665
DTS/ITS-0020017	TS 102 723-3	Cross layer MI		Hans-Joachim Fischer	on hold until approval of TS 102 665
DTS/ITS-0020018	TS 102 723-4	Cross layer MN		Hans-Joachim Fischer	on hold until approval of TS 102 665
DTS/ITS-0020019	TS 102 723-5	Cross layer MF		Hans-Joachim Fischer	on hold until approval of TS 102 665
DTS/ITS-0020020	TS 102 723-6	Cross layer MS		Marie Moe	on hold until approval of TS 102 665
DTS/ITS-0020021	TS 102 760-3	CALM 21218 ATS	YES	Hans-Joachim Fischer	STF to be requested
DEG/ITS-0020022	EG 102 798	ITS testing framework	UL	Hans-Joachim Fischer	waiting for preparatory meeting
DTS/ITS-0020023	TS 102 860	Classification and management of applications	UU	Hans-Joachim Fischer	waiting for preparatory meeting

WI No.	Doc No.	Short title	STF	Mandate	Rapporteur	Observation
DTS/ITS_00200x1	TS	ICS for IS21217	NO	-	Hans-Joachim Fischer	new <a href="#">TS(10)0016r1</a>
DTS/ITS_00200x2	TS	TSS&TP for IS21217	NO	-	Hans-Joachim Fischer	new
DTS/ITS_00200x3	TS	ICS for IS29281	NO	-	Hans-Joachim Fischer	new
DTS/ITS_00200x4	TS	TSS&TP for IS29281	YES A	ITS	Hans-Joachim Fischer	new, STF to be requested
DTS/ITS_00200x5	TS	ATS for IS29281	YES A	ITS	Hans-Joachim Fischer	new, STF to be requested
DTS/ITS_00200x6	TS	ICS for IS21215	YES B	ITS	Hans-Joachim Fischer	new, STF to be requested
DTS/ITS_00200x7	TS	TSS&TP for IS21215	YES B	ITS	Hans-Joachim Fischer	new, STF to be requested
DTS/ITS_00200x8	TS	ATS for IS21215	YES B	ITS	Hans-Joachim Fischer	new, STF to be requested
DTS/ITS_00200x9	TS	ICS for IS21214	NO	ITS	Andreas Schalk	new
DTS/ITS_0020x10	TS	TSS&TP for IS21214	YES C	ITS	Andreas Schalk	new, STF to be requested
DTS/ITS_0020x11	TS	ATS for IS2121	YES C	ITS	Andreas Schalk	new, STF to be requested
DTS/ITS_0020x12	TS	ICS for IS21210	NO	-	Hans-Joachim Fischer	new
DTS/ITS_0020x13	TS	TSS&TP for IS21210	YES A	ITS	Hans-Joachim Fischer	new, STF to be requested
					Hans-Joachim	

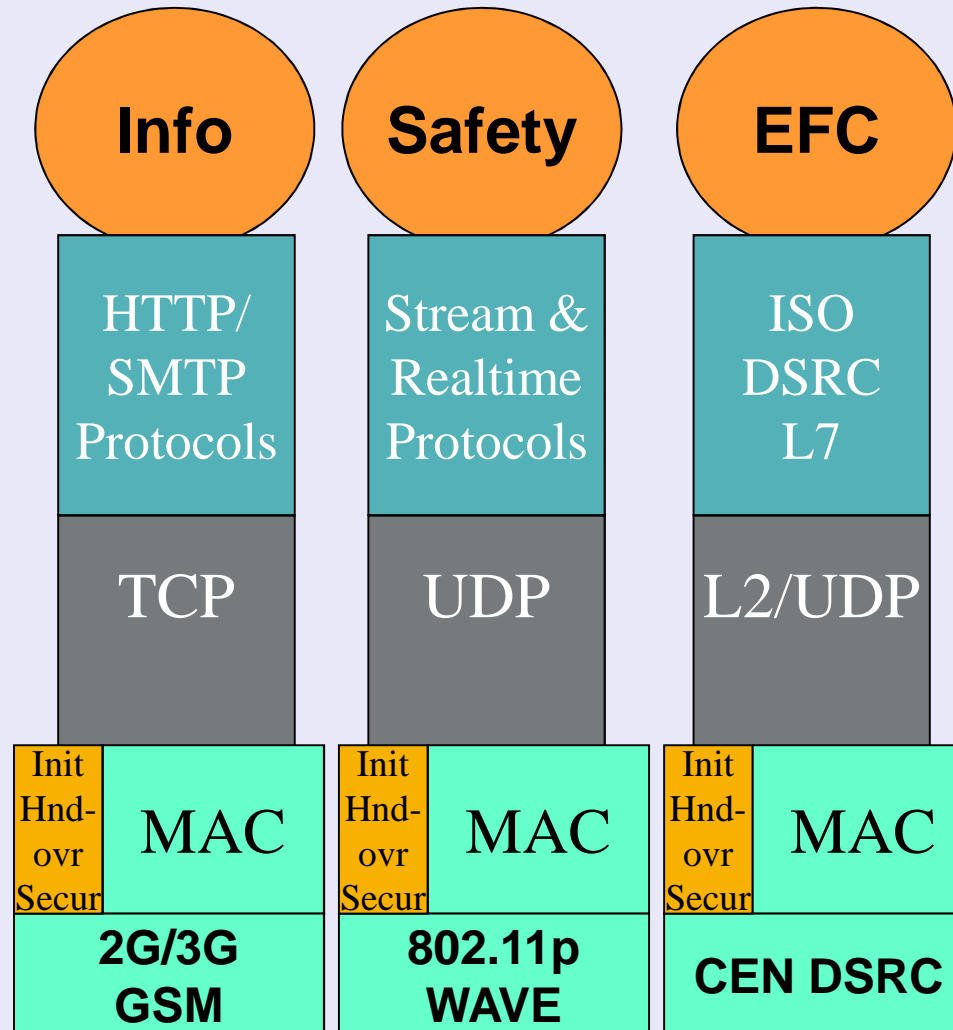
# Intelligent Transport Systems

European Standardisation for

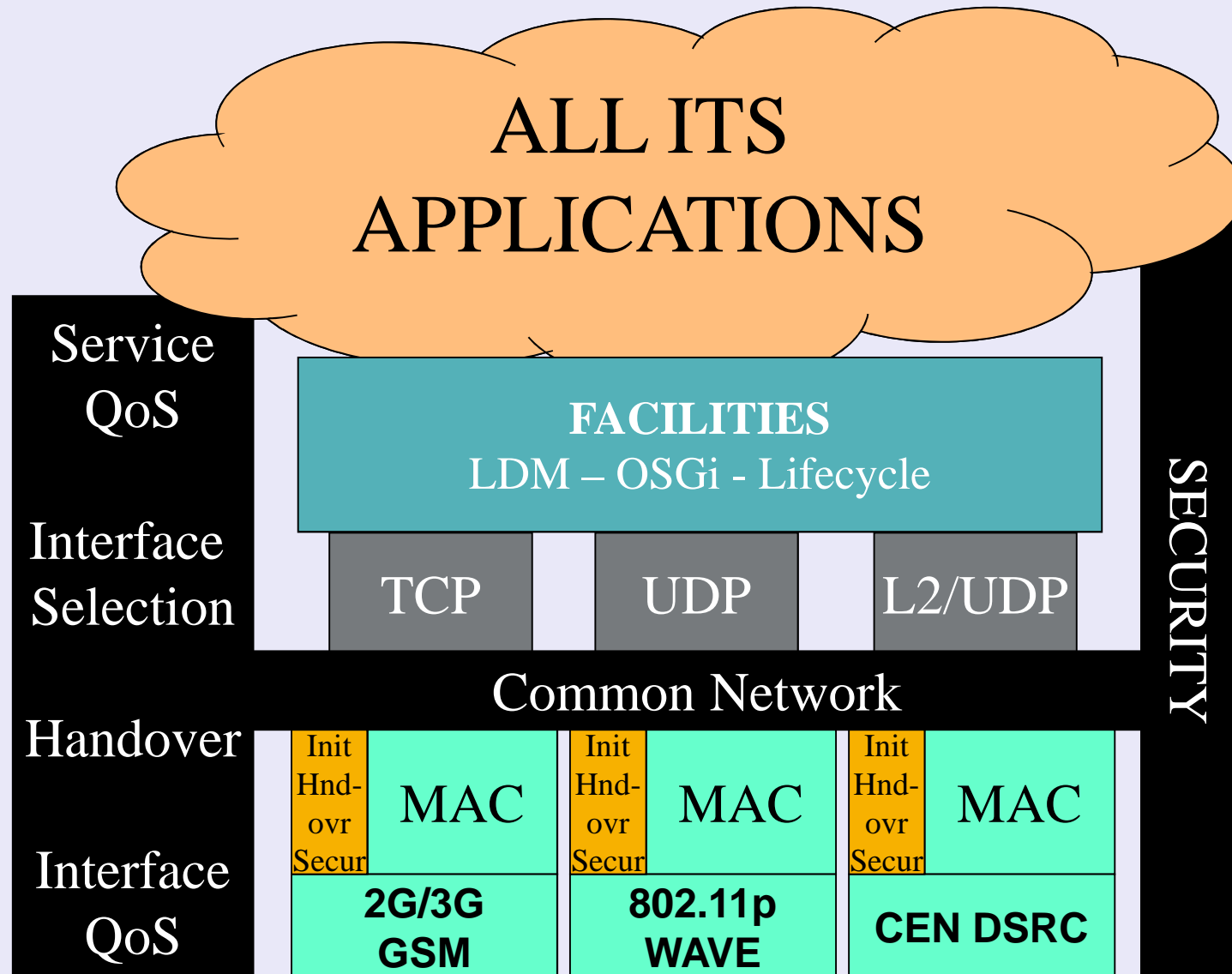


## History of ITS Architecture

# ITS Communications – Current status



# ITS Communications – Cooperative Platform



# ITS Communications – Interoperability



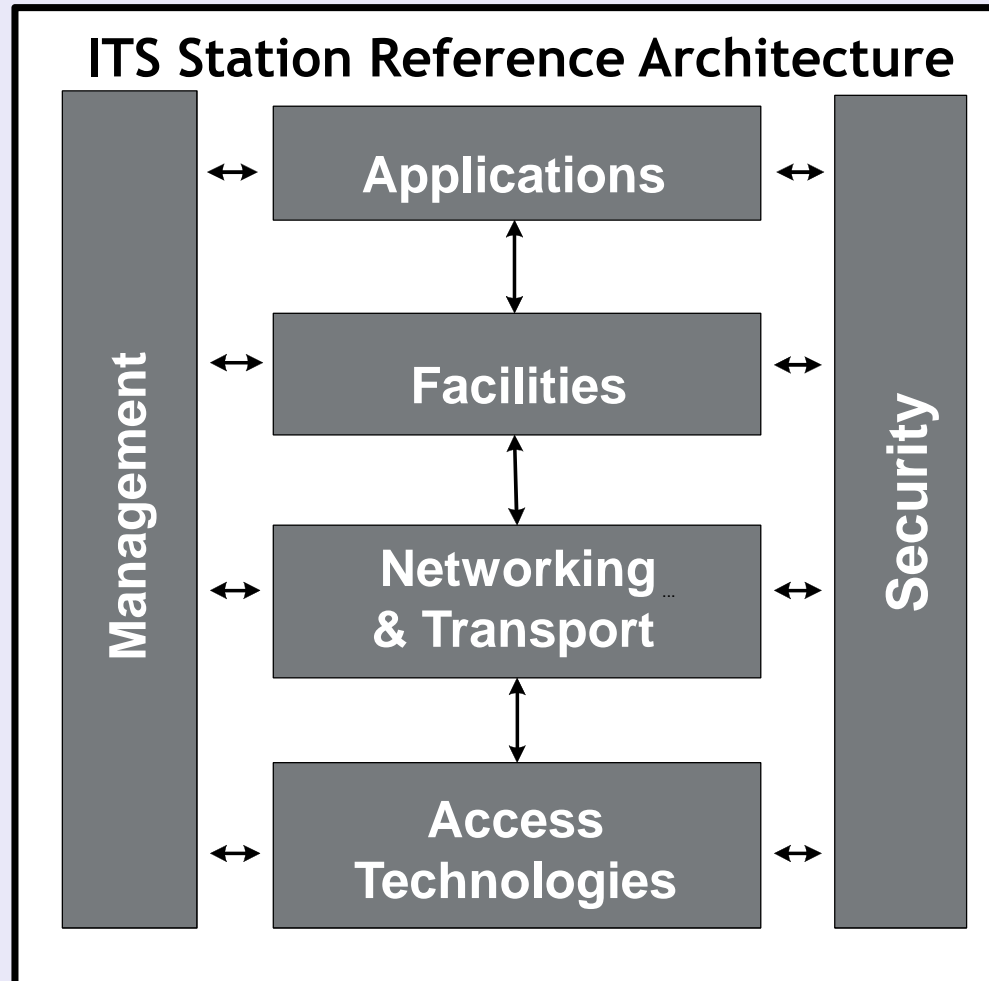
# Intelligent Transport Systems

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## ETSI EN 302 665 Architecture

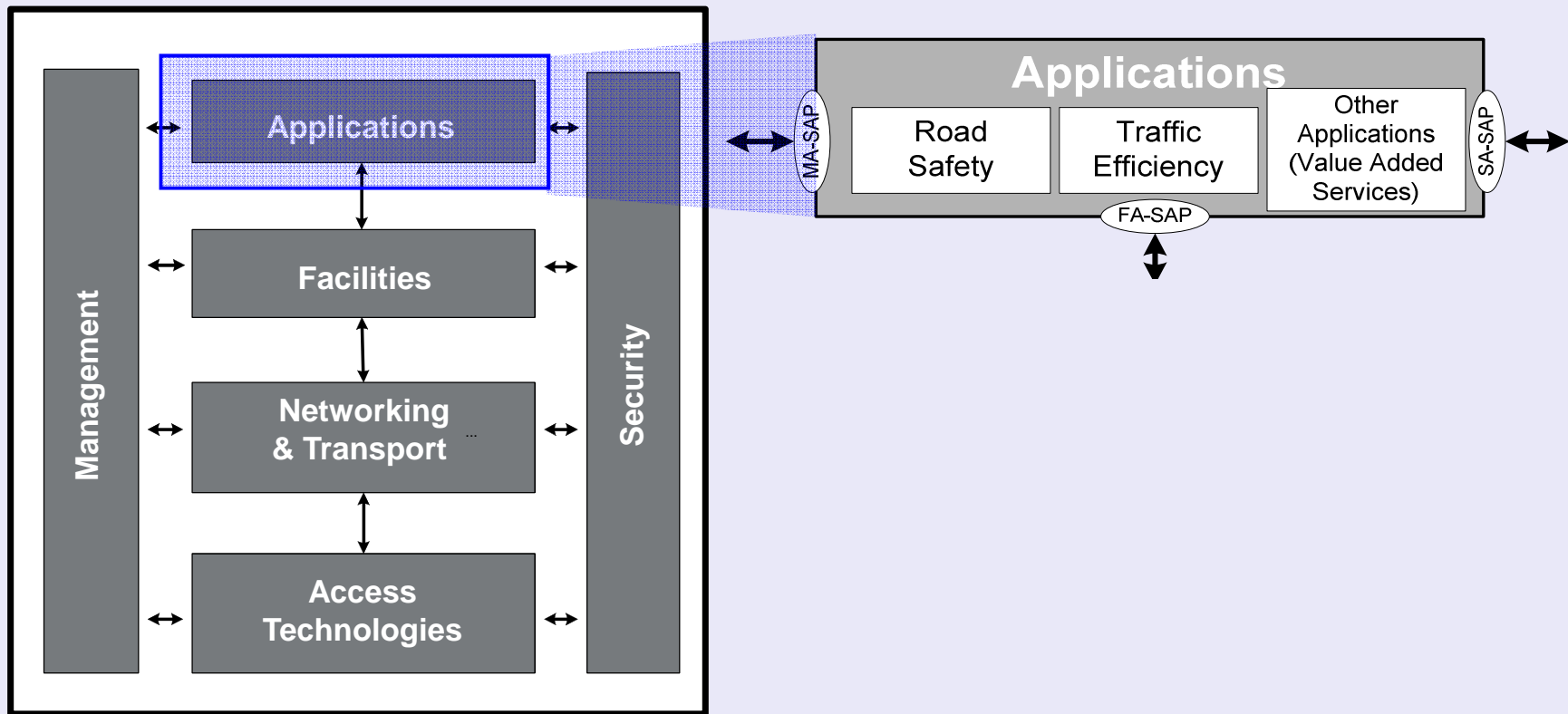
# “Globally Accepted” ITS Station Architecture



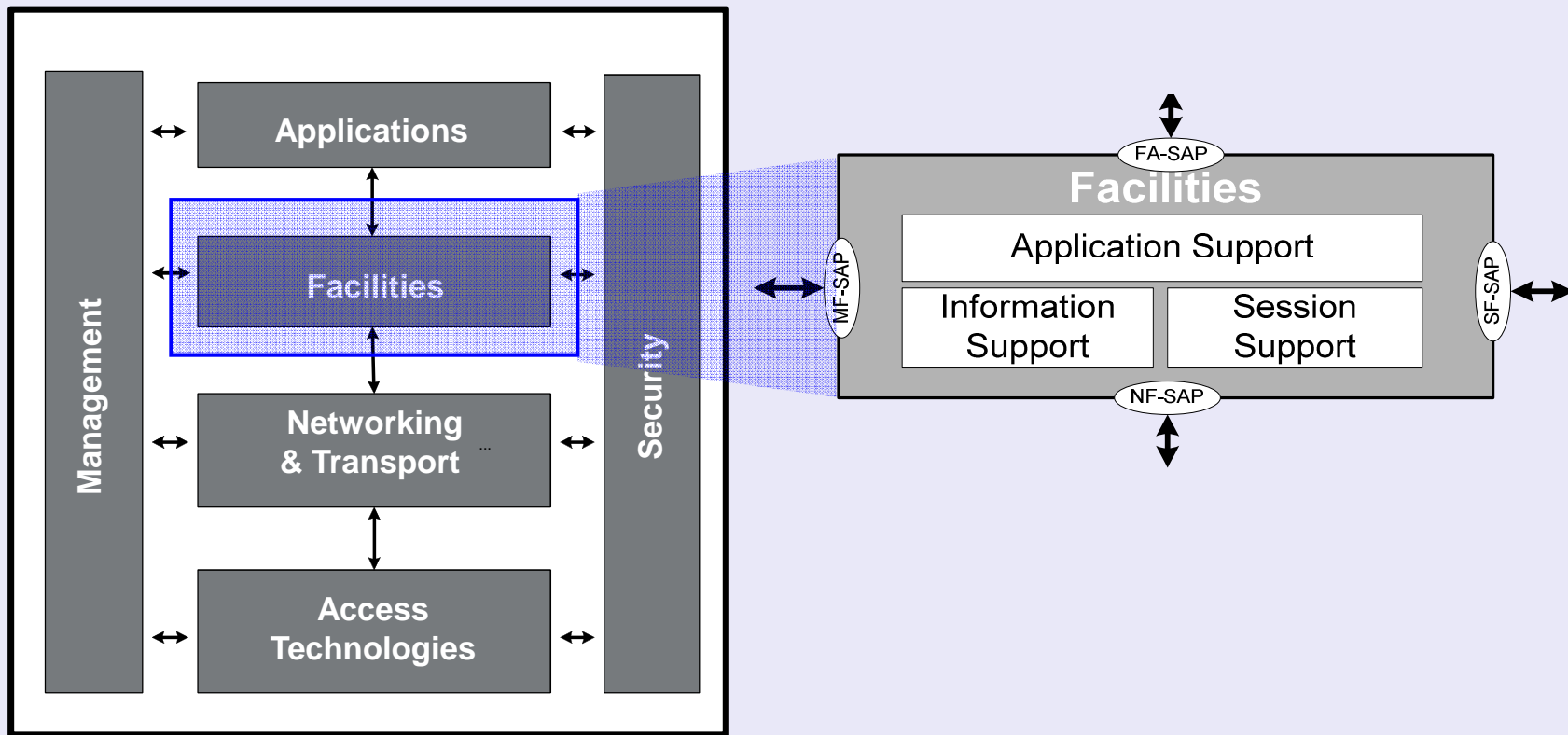
## ■ Participants:

- ETSI TC ITS
- COMeSafety+ R&D projects
- ISO (CALM)
- IEEE 802.11
- IEEE 1609
- IETF MEXT
- ...

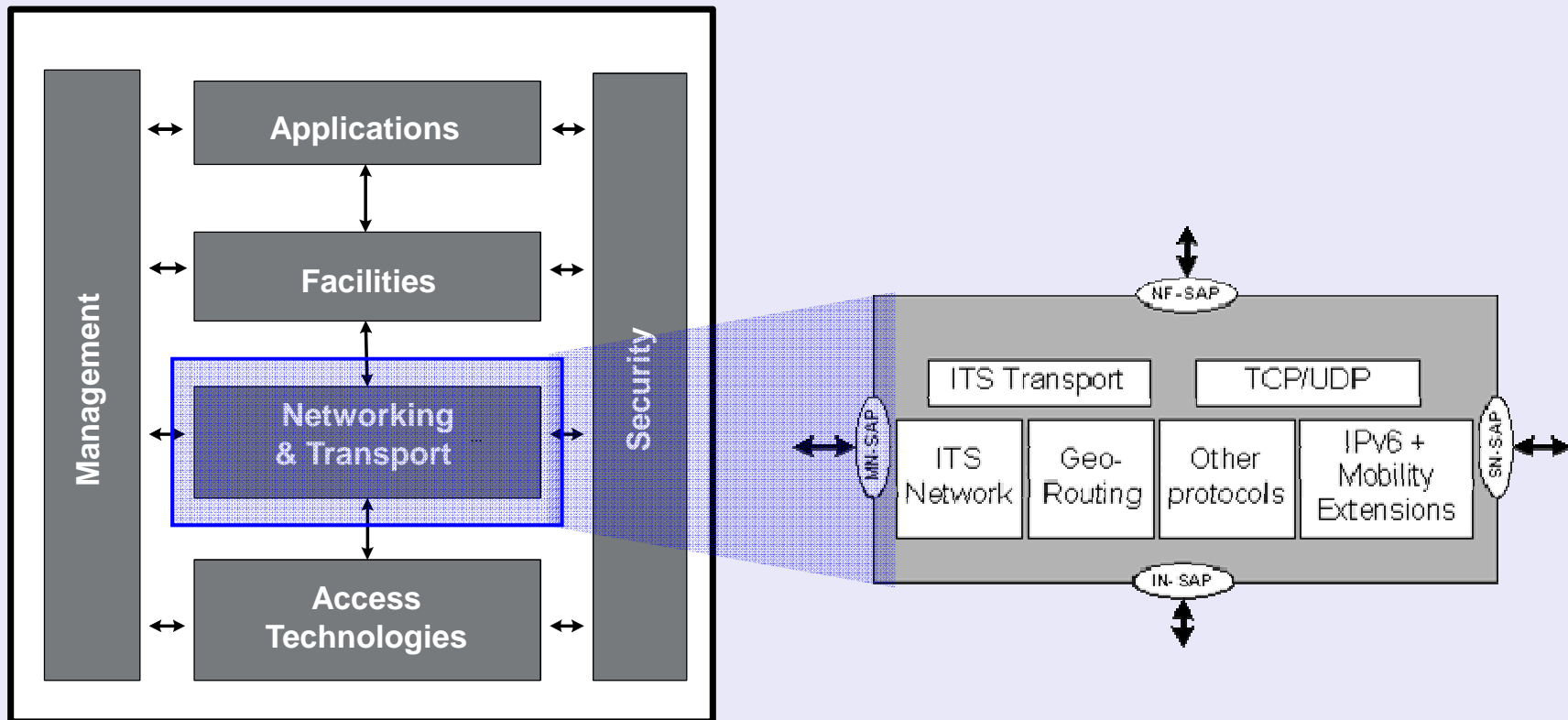
# ITS Station Reference Architecture: Applications



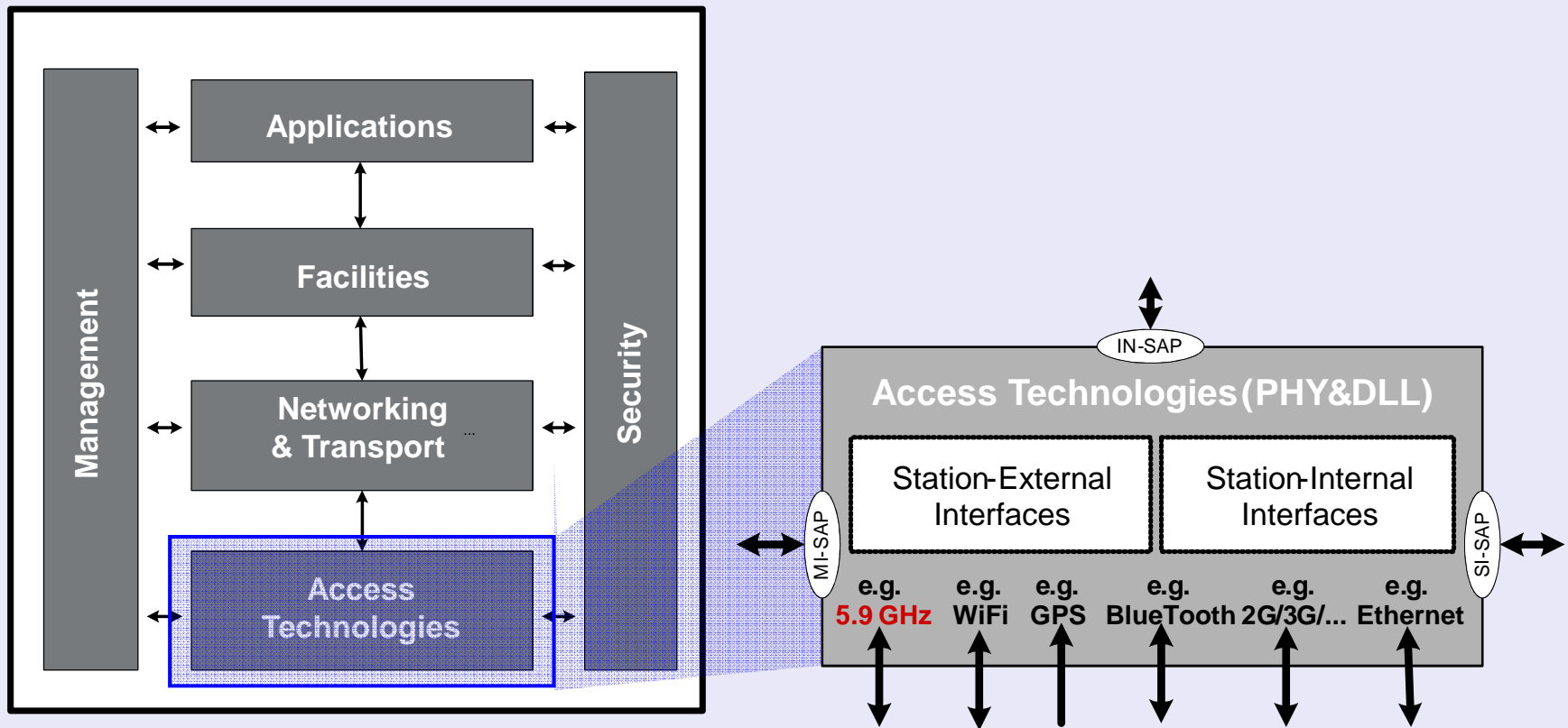
# ITS Station Reference Architecture: **Facilities**



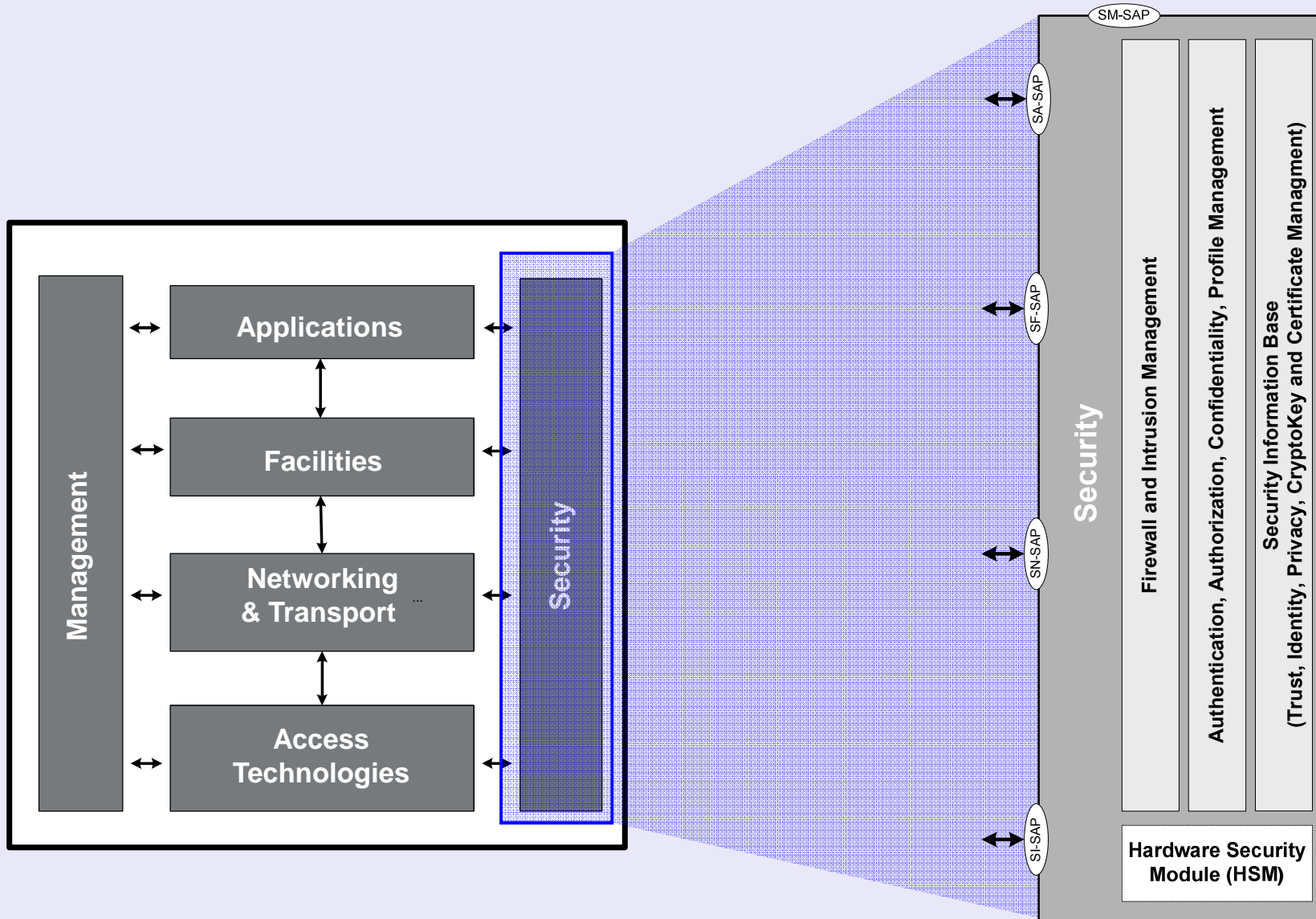
# ITS Station Reference Architecture: **Networking & Transport**



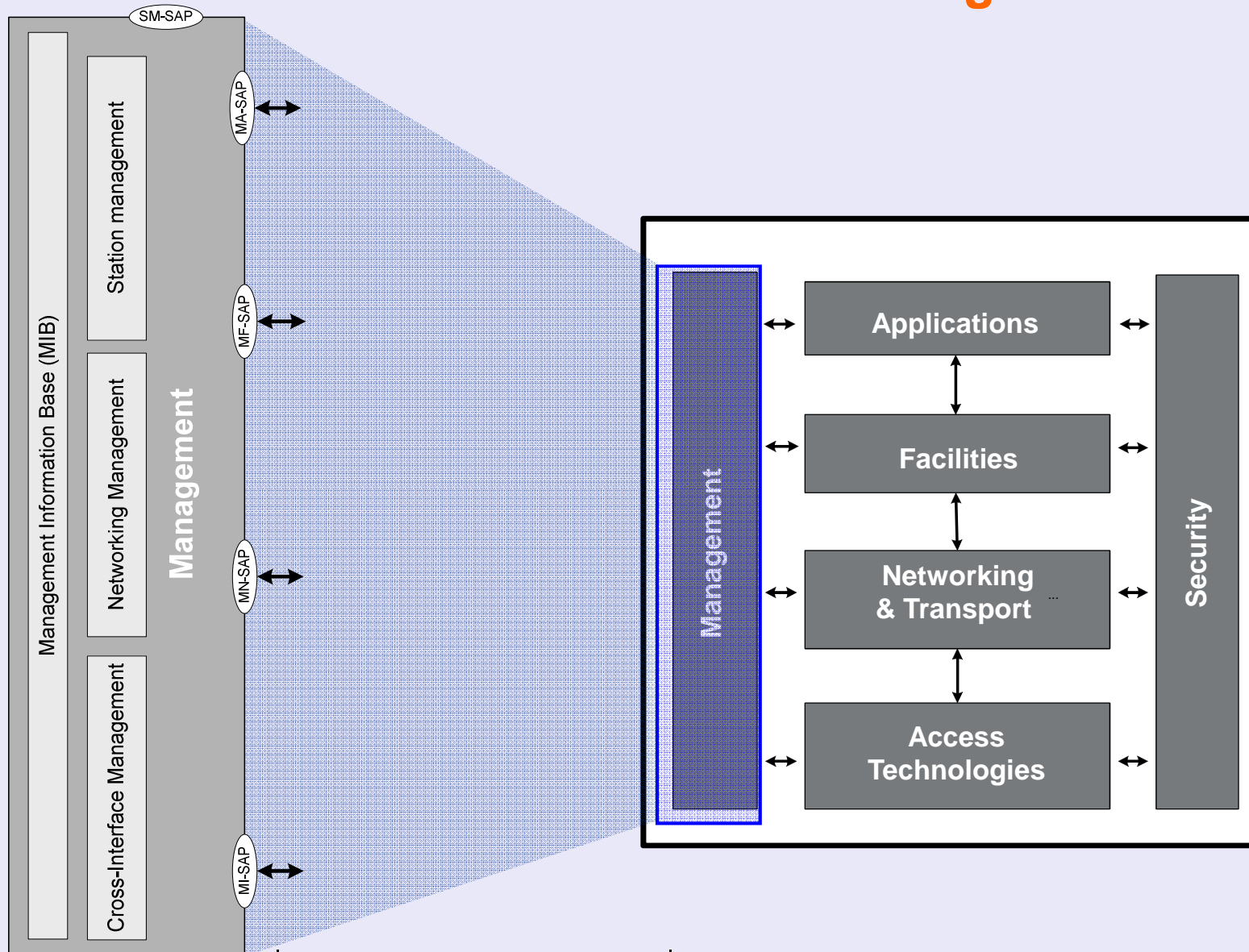
# ITS Station Reference Architecture: **Access Technologies**



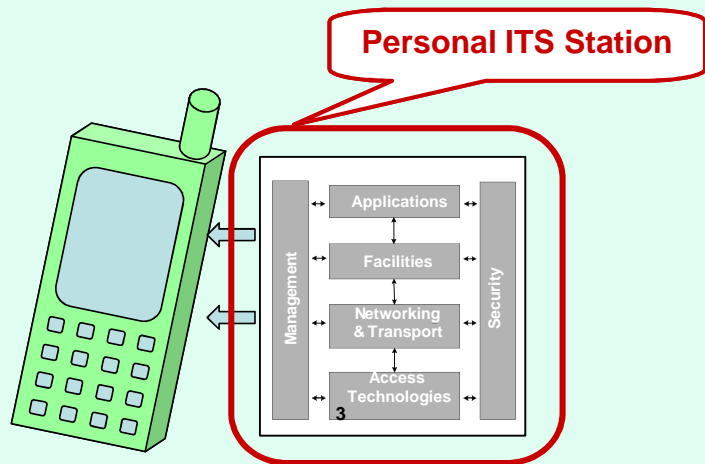
# ITS Station Reference Architecture: Security



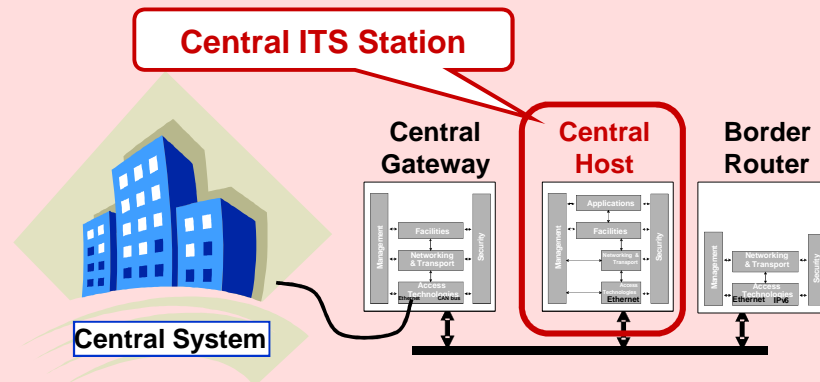
# ITS Station Reference Architecture: Management



# Personal

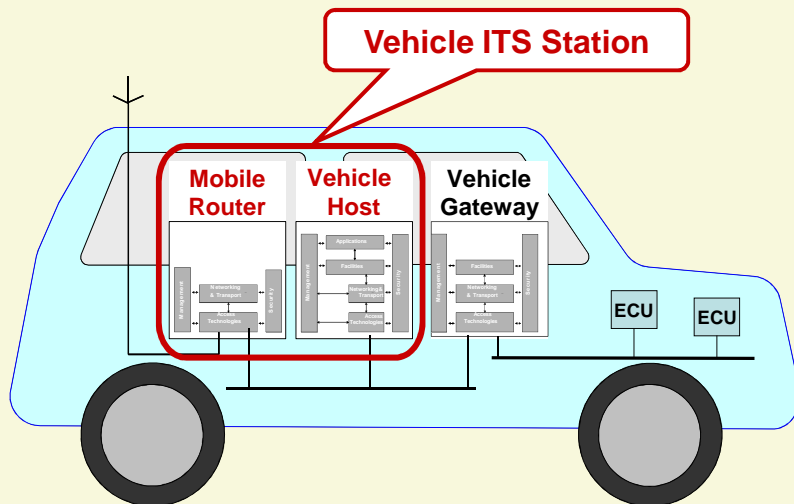


# Central

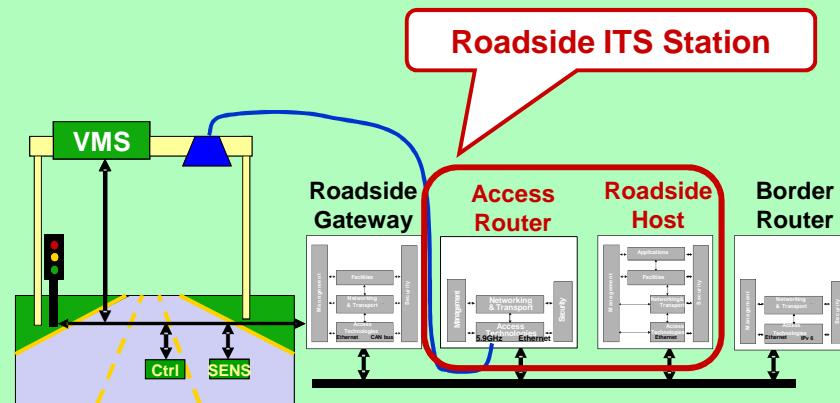


# Communication Network

# Vehicle



# Roadside



# Architecture conclusion

- **WG2 has many active work items**
  - **The first ones are complete, and new ones are underway**
  - **STFs are needed to complete the formal test Wis**
- **The main result is EN 302 665 Architecture**
  - **Basic reference for most European cooperative system standards**
- **Good cooperation with external developments**
  - **Standardisation in ISO(CALM), IEEE(WAVE), IETF(MEXT),...**
  - **CVIS, SAFESPOT, COMeSafety and other projects**
- **WG2 is operating at high speed**
  - **We invite more participants to partake in the developments**

**...Thank you for your attention**

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