

- TSI CCS 2023/1695, resp. 2026/693 & jednotná sada specifikací
- Nové/vylepšené funkce ERTMS/ETCS ...
- ... a jejich přiřazení k obálkám SV
- Shrnutí

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TSI CCS 2023 (2026) & jednotná sada specifikací

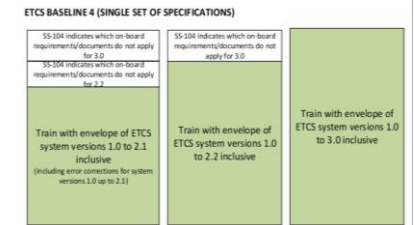


- **jednotná sada specifikací** (single set of specifications)

- výhoda: **udržovaná** (opravováním chyb, pozn. dnes B2 a B3MR1 udržované nejsou, udržovaná je pouze B3R2)

- **redukovaná obálka** funkcí ETCS (reduced envelope)

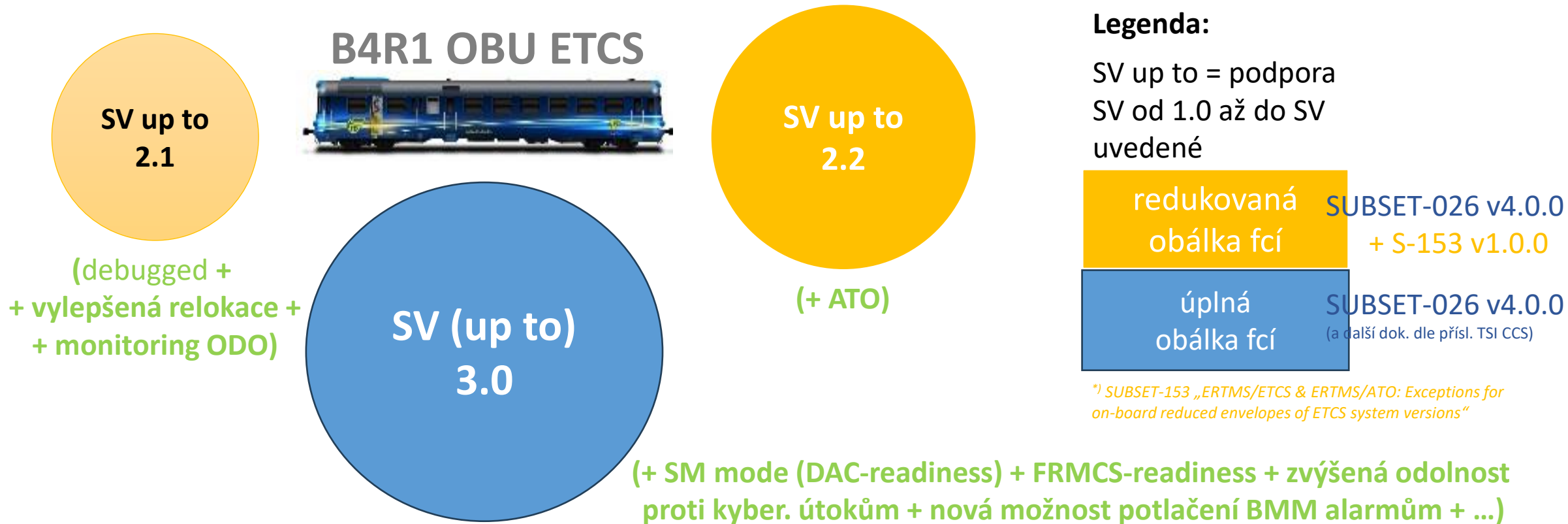
- výhoda: rychlejší **dostupnost produktů** s vybranými novými funkcemi na trhu (pozn. defaultně ETCS OBU SV 3.0, odebráním fcí SV 2.2, nebo 2.1)



TSI CCS 2023 (2026) & jednotná sada specifikací



 : (>2023) **udržované** specifikace & **dostupnost** nových fcí (**ATO**)



TSI CCS 2016 & tři sady specifikací

 : dříve (<2023) **několik sad specifikací** => předchozí neudržované

B2
/sada #1/
SV (up to)
1.0

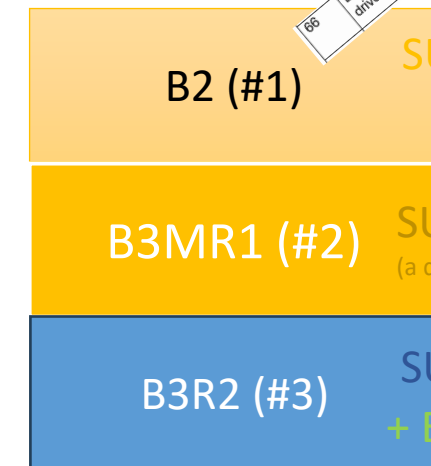


B3MR1
/sada #2/
SV (up to)
2.0

B3R2
/sada #3/
SV (up to)
2.1

Legenda:

SV (up to) = podpora
SV od 1.0 až do SV
uvedené



SUBSET-026 v2.3.0
+ S-108 v1.2.0 (IN)

SUBSET-026 v3.4.0
(a další dok. dle přísl. TSI CCS)

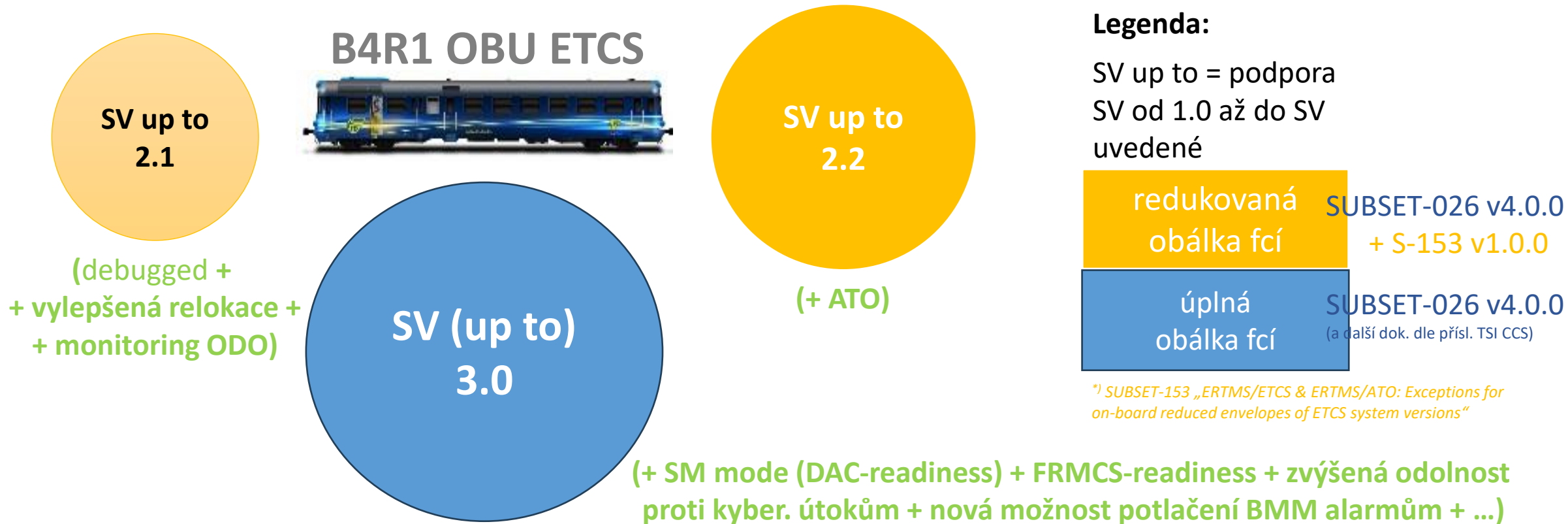
SUBSET-026 v3.6.0
+ Err CRs TO 2017-2,
resp. TO 2020-2

*) SUBSET-108 „ERTMS/ETCS: Interoperability-related consolidation on TSI annex A documents “

TSI CCS 2023 (2026) & jednotná sada specifikací



 : (>2023) **udržované** specifikace & **dostupnost** nových fcí (**ATO**)



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Nové/vylepš. fce ERTMS dle TSI CCS 2023

ATO SV 1.1, /1.0/ B1R1 (1.1.0)



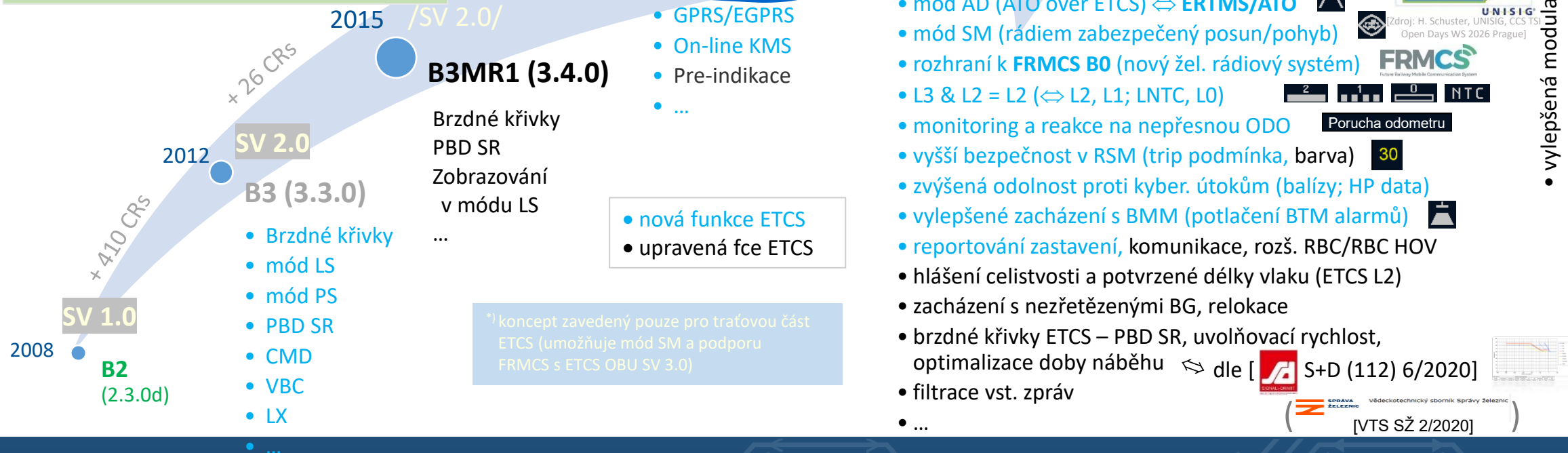
Possible combinations of system version number X.Y
ATO-OB 1.0 ⇔ ETCS-OB 2.2
ATO-OB 1.1 ⇔ ETCS-OB 3.0

■ Vývoj specifikací ETCS



Legenda:

B4R1 = Baseline 4 Release 1 (OJEU-EC-RISC-EECT-ERA-EUG-UNISIG)
B3R2 = Release 3 Release 2 (dttto)
SV = System Version / systémová verze
CR = Change Request / požadavek na změnu



• vylepšená modularita CCS ONB (Ethernet-readiness pro zavedení protokolu TRTD)

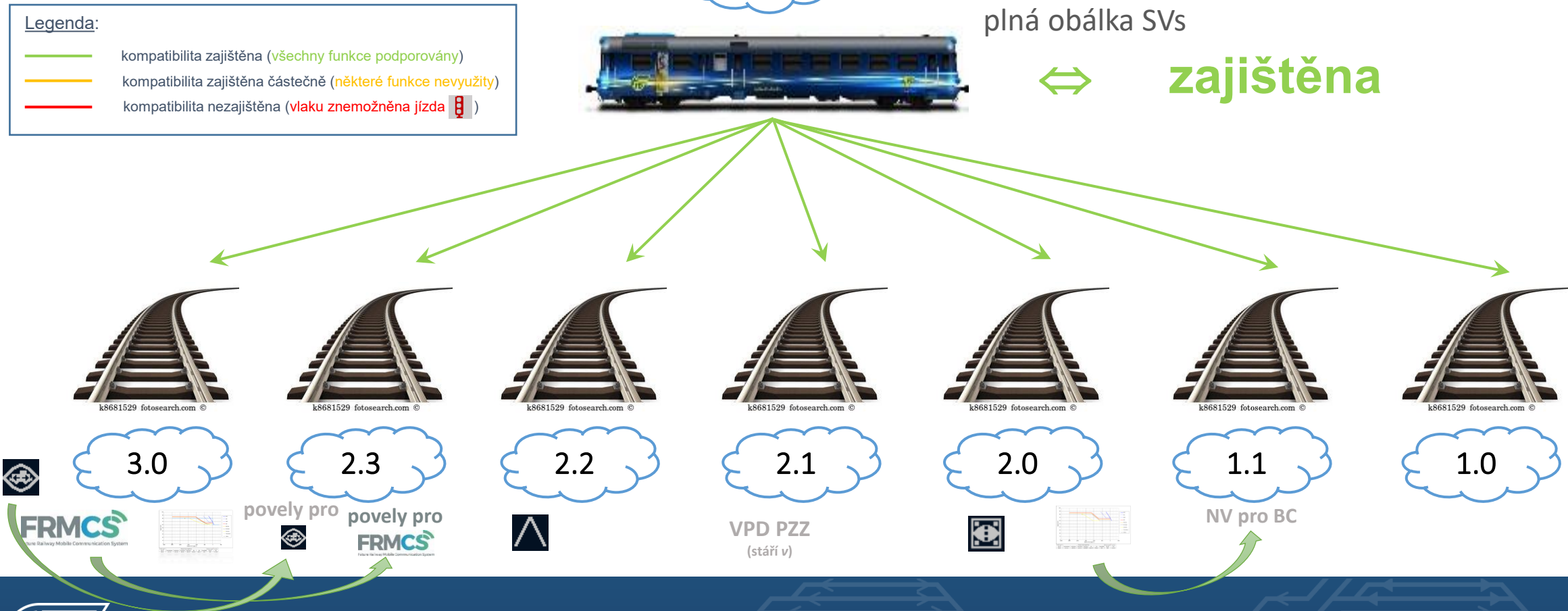


Rozdílné funkční vlastnosti OBU ETCS B3R2 a B4R1 různých obálek SV

Nové/vylepš. fce ERTMS dle TSI CCS 2023 (2026)



▪ Kompatibilita SV ETCS (1/3)



Rozdílné funkční vlastnosti OBU ETCS B3R2 a B4R1 různých obálek SV

Novinky – vlastnosti/fce ERTMS (TSI CCS 2023/26)



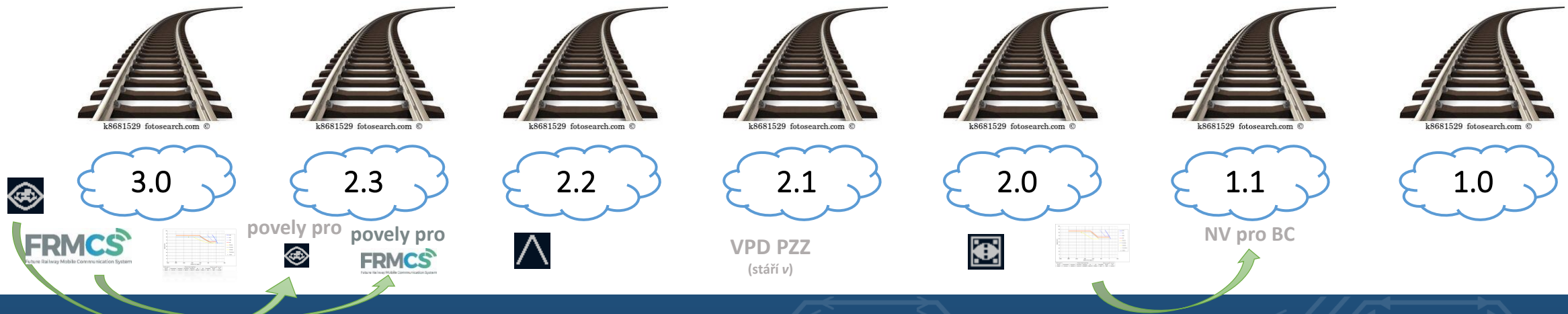
▪ Kompatibilita SV ETCS (2/3)

2.2

B4R1 (Baseline 4 Release 1), redukovaná obálka SVs

Legenda:

- kompatibilita zajištěna (všechny funkce podporovány)
- kompatibilita zajištěna částečně (některé funkce nevyužity)
- kompatibilita nezajištěna (vlaku znemožněna jízda 🚂)



Rozdílné funkční vlastnosti OBU ETCS B3R2 a B4R1 různých obálek SV

Novinky – vlastnosti/fce ERTMS (TSI CCS 2023/26)



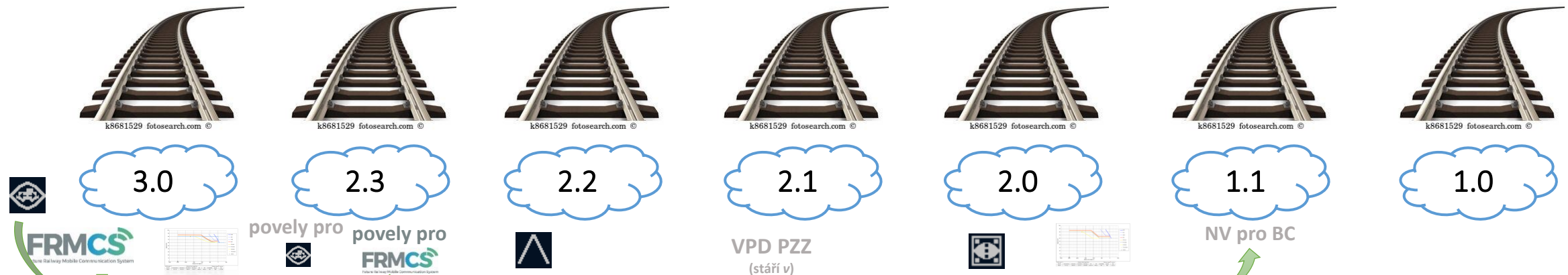
▪ Kompatibilita SV ETCS (3/3)

2.1

B4R1 (Baseline 4 Release 1), redukovaná obálka SVs,
popř. B3R2 (Baseline 3 Release 2)

Legenda:

- kompatibilita zajištěna (všechny funkce podporovány)
- kompatibilita zajištěna částečně (některé funkce nevyužity)
- kompatibilita nezajištěna (vlaku znemožněna jízda 🚂)



Rozdílné funkční vlastnosti OBU ETCS B3R2 a B4R1 různých obálek SV



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Přiřaz. nových/vylepš. fcí ETCS k obálkám SV



- CR1424 „**Concept of reduced envelope of ETCS system versions** for the ERTMS/ETCS on-board equipment“
 - Zavedení konceptu redukováných obálek SV OBU ETCS, tj.:
 - **implementovat všechny opravy chyb** (Err CRs) **do** OBU ETCS **všech obálek SV**
 - **doplnit vylepšení** (Enh CRs) **jen do dohodnutých obálek SV** OBU ETCS



1424

Introduction of the concept of reduced envelope of ETCS system versions for the ERTMS/ETCS on-board equipment

- to implement (error) change requests for all applicable ETCS on-board envelopes of system versions
- to add (enhancement) change requests according to a certain on-board ETCS system version

Přiřaz. nových/vylepš. fcí ETCS k obálkám SV

▪ Zadání – **seznam vyjmutých fcí** [TSI CCS (EU) 2026/693]

Appendix G

Partial Fulfilment

Notwithstanding the options allowed in this TSI, e.g. under point 7.3.2 or in subset 34, it is possible to deviate from this TSI provided that compliance with provisions of point 6.1.1.2 and the deviation fulfils one of the categories below and limited to the defined cases in the table underneath:

- (1) Functions requiring upgrades of existing installations which would compromise the economic viability of a project regarding upgrades of already authorized hardware installed in the vehicles

Partial fulfilment of TSI Requirement	Conditions and mitigation measures	Scope of application of partial fulfilment
SUBSET-091: safety requirements leading to DMI SIL 2 may not be implemented.	The associated hazards linked to the safety requirements leading to DMI SIL 2 shall be mitigated by appropriate measures.	Only allowed in case of upgrading an existing ETCS part (with DMI SIL 0).
Intentionally deleted ⁽¹⁾ .	Intentionally deleted.	Intentionally deleted ⁽²⁾ ⁽³⁾ .
Intentionally deleted	Intentionally deleted	Intentionally deleted



- ⁽¹⁾ Some new functionalities included in this TSI are excluded from the on-board envelopes up to 2.1 and 2.2. These reduced envelopes will be specified in SUBSET-153.
- ⁽²⁾ The following on-board functionalities impacting the ETCS on-board system version are excluded in the reduced on-board envelope up to 2.1 as specified in SS-153: CR968;CR988;CR1238;CR1244; CR1302;CR1344;CR1346;CR1350;CR1359; CR1363;CR1367;CR1374;CR1375;CR1379; CR1397.
- ⁽³⁾ The following on-board functionalities impacting the ETCS on-board system version are excluded in the reduced on-board envelope up to 2.2 as specified in SS-153: CR968;CR988;CR1244;CR1302; CR1344;CR1346;CR1350;CR1359;CR1363; CR1367;CR1374;CR1375;CR1379;CR1397.

Přiřaz. nových/vylepš. fcí ETCS k obálkám SV



■ Vysvětlení – Enhancement & Error CRs [TSI CCS (EU) 2026/693]

Appendix G
Partial Fulfilment

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Intentionally deleted (?).	Intentionally deleted.	Intentionally deleted (?).
Intentionally deleted	Intentionally deleted	Intentionally deleted

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(?) The following on-board functionalities impacting the ETCS on-board system version are excluded in the reduced on-board envelope up to 2.2 as specified in SS-153: CR968, CR988, CR1244, CR1302, CR1344, CR1346, CR1350, CR1359, CR1363, CR1367, CR1374, CR1375, CR1379, CR1397.

Search

Full Text By ID

Navigator

- Personal Queries
- Public Queries
- Annual stats
- ETCS Admin
- email rules
- ETCS B2
- ETCS B4R1 & ATO B1R1 & RMR B1R1
- ETCS Baseline 3
- Report Queries
- user prompted queries
- All ATO CRs
- All closed CRs
- All CRs assigned to DMI WG
- All CRs assigned to EECIG CR Group
- All CRs assigned to ERA GSM-R CCM WG
- All CRs assigned to GSM-R IWG
- All CRs assigned to other WGs
- All CRs assigned to UNISIG Super Group
- All CRs directly handled by ERA core team
- All CRs postponed
- All CRs rejected
- All CRs superseded
- All ETCS CRs
- All Open CRs
- ERTMS Recommendation 2012
- ETCS B3MR1
- ETCS B3R2
- ETCS B4R1
- GSM-R B1
- Trident CRs

ETCS B4R1

Id number	Headline	Type	Impacted system	State	Target Baseline
0968	Section establishment failure	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
0988	Insufficient specification regarding BMM	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1174	Train interface FFIS	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1238	Automatic Train Operation over ETCS	Enhancement	ETCS	Presented_to_EC	ETCS B4R1 & ATO B1R1
1244	PdO functional needs	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1302	SB feedback for multiple targets	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1344	Improvement of conversion model	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1346	Radio Remote control shunting under ETCS	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1350	Always connected, always reporting	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1357	Eurobalise for Three-Rail tracks	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1359	Evolution of the interface between signaling applications (ETCS and ATO) and the radio communication system on-board	Enhancement	ETCS&RMR	Presented_to_EC	ETCS B4R1 & ATO B1R1 & RMR B1R1
1363	Standstill report to trackside	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1367	Cab-Auxiliary supervisor	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1370	Relocation without linking	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1373	Ballise metal free volume	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1392	Non-leading	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1395	Raise driver awareness on approaching an FMA	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1397	Technical range check during data entry	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
1403	SUBSET-076 upgrade for B4R1	Enhancement	ETCS	Presented_to_EC	ETCS B4R1
0887	Position Report Consistency (follow-up of CB556)	Error	ETCS	Presented_to_EC	ETCS B4R1
1395	Unclear on-board handling of a Packet 76 in an X=1 message	Error	ETCS	Presented_to_EC	ETCS B4R1
1396	Resolution of the VBC validity period	Error	ETCS	Presented_to_EC	ETCS B4R1
1397	Sorting speed based upon mass per unit length	Error	ETCS	Presented_to_EC	ETCS B4R1
1398	Risk for deadlock in the clock offset update procedure in SUBSET-098	Error	ETCS	Presented_to_EC	ETCS B4R1
1405	Error in the applicability conditions of [TS 27.010]	Error	ETCS&GSM-R	Presented_to_EC	ETCS B4R1 & RMR B1R1
1408	Train data before SoM position report	Error	ETCS	Presented_to_EC	ETCS B4R1
1409	"Infinite" information in RRI	Error	ETCS	Presented_to_EC	ETCS B4R1
1410	Sending static information to a vehicle regarding area in advance of an RBC border	Error	ETCS	Presented_to_EC	ETCS B4R1
1411	Inconsistency section timer expires	Error	ETCS	Presented_to_EC	ETCS B4R1

The only diff between SV up to 2.1 (our) vs. SV up to 2.2 (TM)

„Automatic Train Operation over ETCS“

Shrnutí: neoznačené CRs = delta B3R2 (SV 2.1) vs. B4R1 (SV up to 2.1); neškrtnuté CRs = delta B3R2 vs. B4R1 (SV up to 2.2); všechny CRs = delta B3R2 (SV 2.1) vs. B4R1 (SV 3.0)



Rozdílné funkční vlastnosti OBU ETCS B3R2 a B4R1 různých obálek SV

Přiřaz. nových/vylepš. fcí ETCS k obálkám SV

- Přehled – **seznam vyjmutých fcí** [TSI CCS (EU) 2026/693]

B4R1 OBU ETCS



SV up to 2.1 ⇔

SV up to 2.2 ⇔

-
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- (²) The following on-board functionalities impacting the ETCS on-board system version are excluded in the reduced on-board envelope up to 2.1 as specified in SS-153: CR968;CR988;CR1238;CR1244; CR1302;CR1344;CR1346;CR1350;CR1359;CR1363;CR1367;CR1374;CR1375;CR1379; CR1397.
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-

Poznámky:

- **zelená** = vyjmuté Enhancement CRs (zavádějící nové fce /např. CR988/, resp. vylepšující stávající fce /např. CR968/)
- **oranžová** = vyjmutý Error CR (opravující chybu při výběru rychlostního profilu)
- **modrá** = rozdíl mezi SV up to 2.1 a SV up to 2.2: CR1238 „ATO over ETCS“

Přiřaz. nových/vylepš. fcí ETCS k obálkám SV

▪ CR1457 „Follow-up of CR1424 – **construction of the SUBSET-153**“

– Obecná struktura SUBSET-153:

– x. Mandatorní dokument n (např. SUBSET-026)

- x.1 výjimky **pouze** pro red. obálku SV **až do 2.1**
- x.2 výjimky **pouze** pro red. obálku SV **až do 2.2**
- x.3 výjimky **společné pro obě red. obálky** (tj. SV až do 2.1 & SV až do 2.2)

5.2 SUBSET-026

- ▶ 5.2.1 Exceptions applicable only to the reduced envelope of ETCS system versions up to X.Y = 2.1
- ▶ 5.2.2 Exceptions applicable only to the reduced envelope of ETCS system versions up to X.Y = 2.2
- ▶ 5.2.3 Exceptions commonly applicable to the reduced envelope of ETCS system versions up to X.Y = 2.1 and to the reduced enve...

– Konkrétní příklad SUBSET-153 (CR1238 „Automatic Train Operation over ETCS“):

– 5.2 SUBSET-026

- 5.2.1 „The section 3.15.11 [‘Driving with Automatic Train Operation’] shall not apply.“ & „The section 4.4.16 [‘Automatic Driving’ mode] shall not apply.“ & transition table 4.7.2 replace with no AD mode & ...
- 5.2.2 Void
- 5.2.3 Void

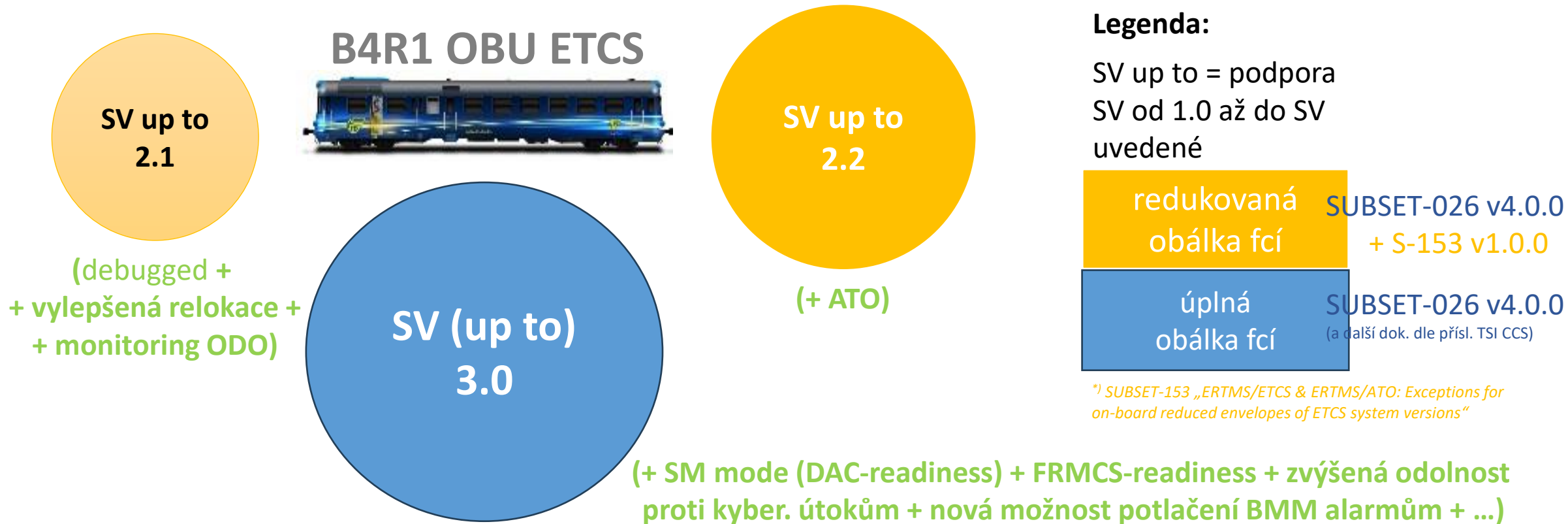


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TSI CCS 2023 (2026) & jednotná sada specifikací

 : (>2023) **udržované** specifikace & **dostupnost** nových fcí (**ATO**)





ETCS BASELINE 4 (SINGLE SET OF SPECIFICATIONS)		
SS-104 indicates which on-board requirements/documents do not apply for 3.0	SS-104 indicates which on-board requirements/documents do not apply for 3.0	
SS-104 indicates which on-board requirements/documents do not apply for 2.2		
Train with envelope of ETCS system versions 1.0 to 2.1 inclusive (including error corrections for system versions 1.0 up to 2.1)	Train with envelope of ETCS system versions 1.0 to 2.2 inclusive	Train with envelope of ETCS system versions 1.0 to 3.0 inclusive

Děkuji za pozornost

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