Status report of TF-CS/OTA

21 June 2018, 15th session of UNECE WP.29 IWG ITS/AD,
Palais des Nations, Geneva

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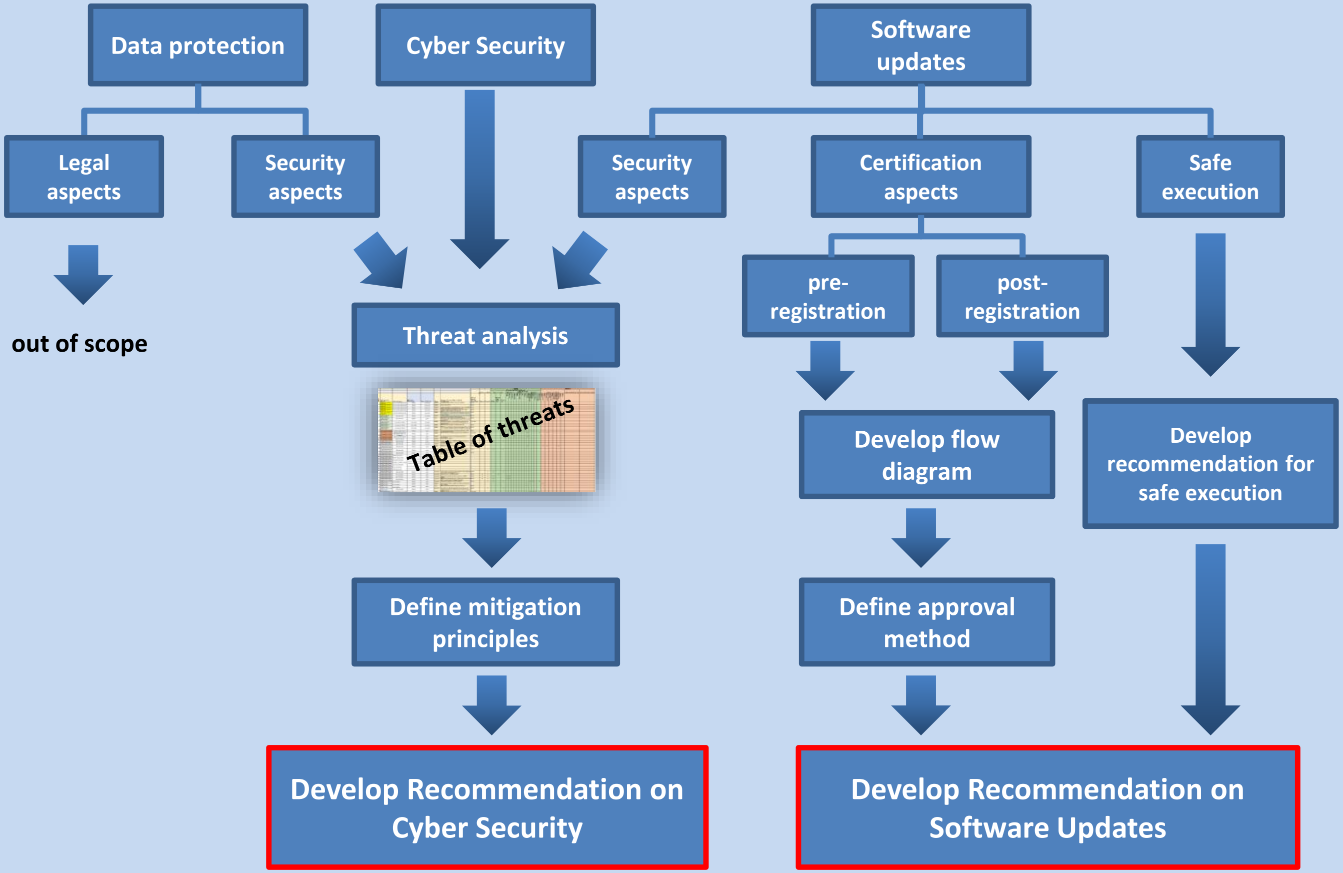
The UN Task Force on Cyber Security and Over the Air issues (TF-CS/OTA) will provide two recommendations:



Data protection

Cyber Security

Software updates

Legal aspects

Security aspects

Security aspects

Certification aspects

Safe execution

out of scope

Threat analysis

pre-registration

post-registration

Table of threats

Develop flow diagram

Develop recommendation for safe execution

Define mitigation principles

Define approval method

Develop Recommendation on Cyber Security

Develop Recommendation on Software Updates

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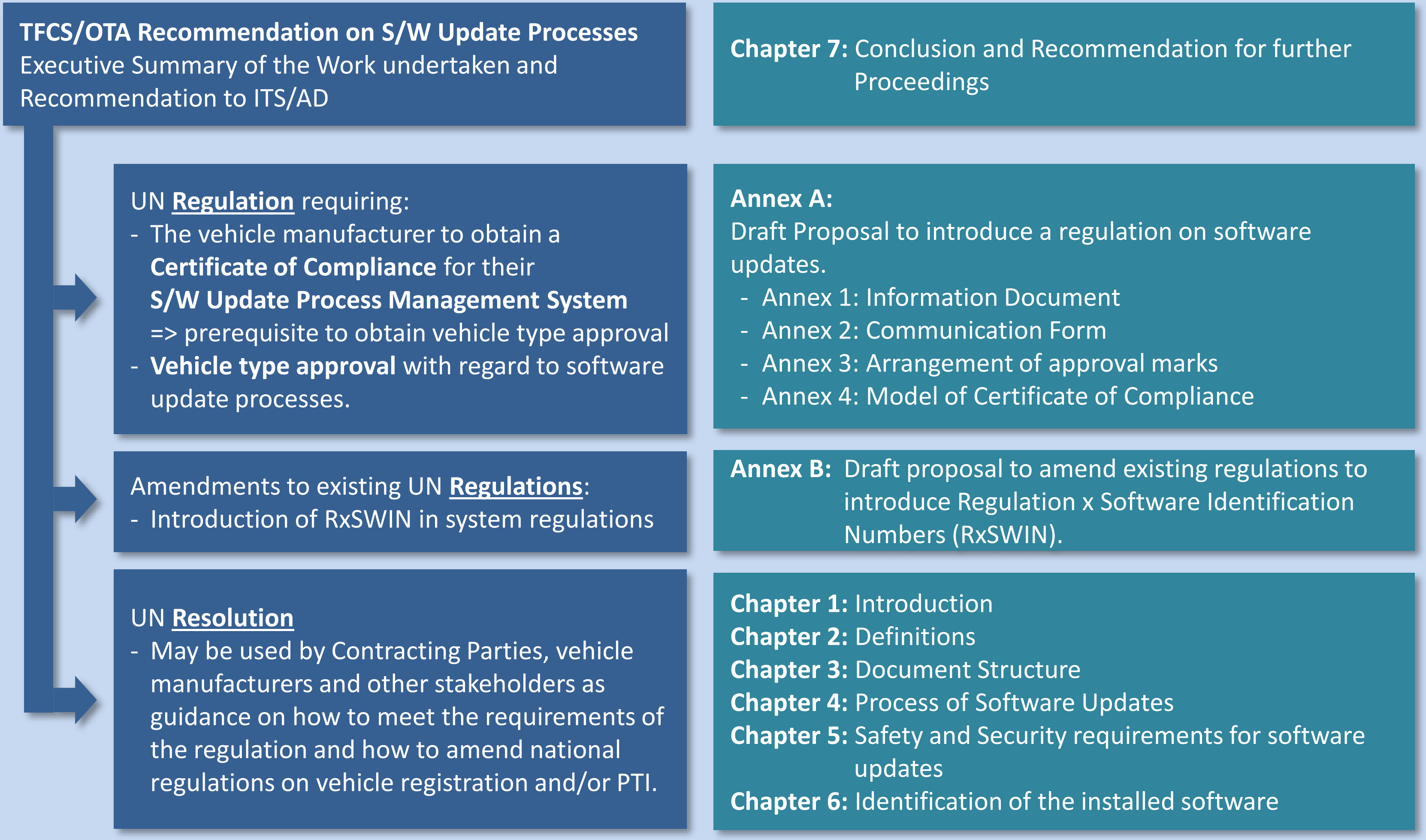
Document structure: Software update paper

How to understand the paper



TFCS/OTA Recommendation on S/W Update Processes
Executive Summary of the Work undertaken and Recommendation to ITS/AD

UN **Regulation** requiring:
- The vehicle manufacturer to obtain a **Certificate of Compliance** for their **S/W Update Process Management System** => prerequisite to obtain vehicle type approval
- **Vehicle type approval** with regard to software update processes.

Amendments to existing UN **Regulations**:
- Introduction of RxSWIN in system regulations

UN **Resolution**
- May be used by Contracting Parties, vehicle manufacturers and other stakeholders as guidance on how to meet the requirements of the regulation and how to amend national regulations on vehicle registration and/or PTI.

Chapter 7: Conclusion and Recommendation for further Proceedings

Annex A:
Draft Proposal to introduce a regulation on software updates.
- Annex 1: Information Document
- Annex 2: Communication Form
- Annex 3: Arrangement of approval marks
- Annex 4: Model of Certificate of Compliance

Annex B: Draft proposal to amend existing regulations to introduce Regulation x Software Identification Numbers (RxSWIN).

Chapter 1: Introduction
Chapter 2: Definitions
Chapter 3: Document Structure
Chapter 4: Process of Software Updates
Chapter 5: Safety and Security requirements for software updates
Chapter 6: Identification of the installed software

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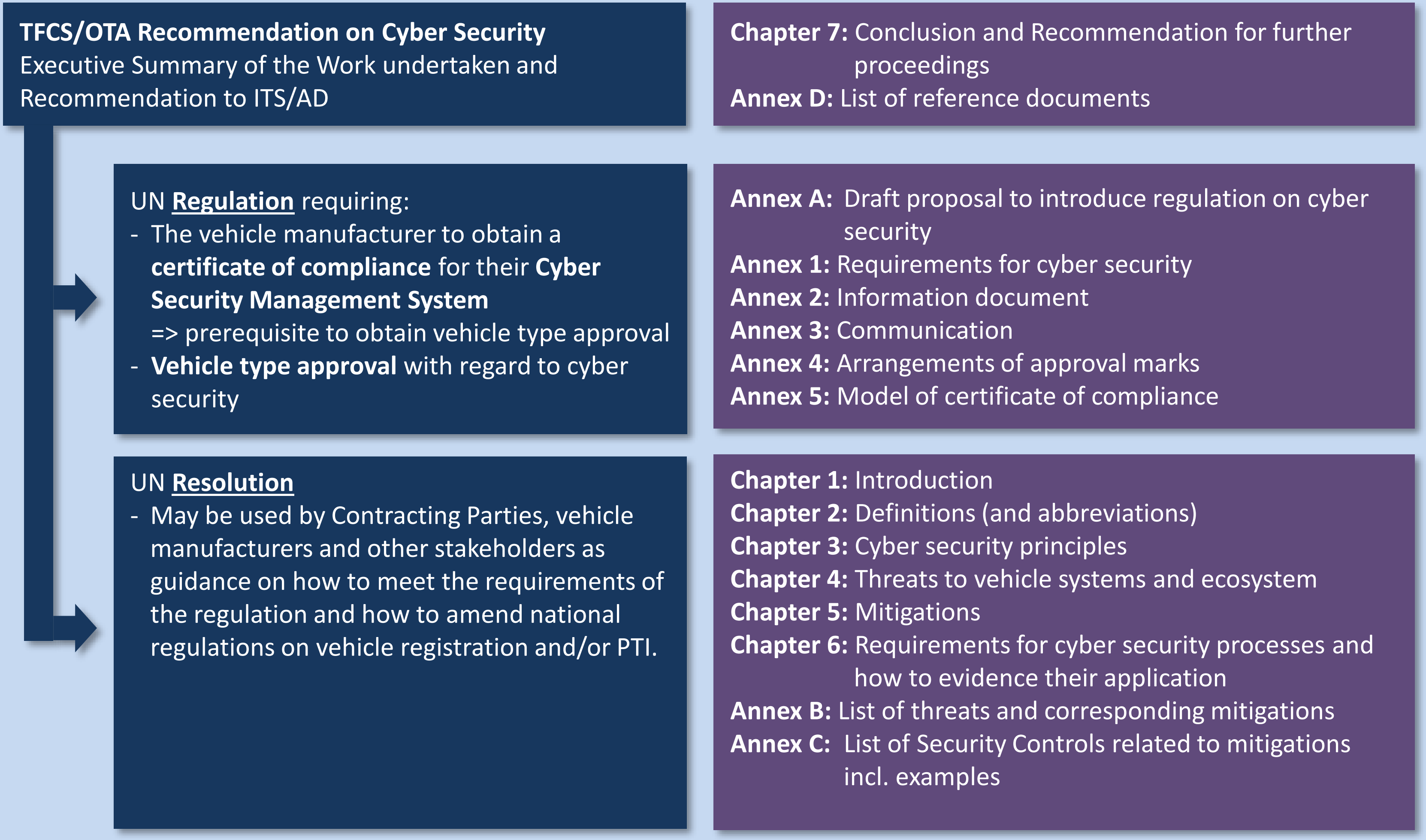
Document structure: Cyber Security paper

How to understand the paper



TFCS/OTA Recommendation on Cyber Security
Executive Summary of the Work undertaken and Recommendation to ITS/AD

Chapter 7: Conclusion and Recommendation for further proceedings
Annex D: List of reference documents

UN **Regulation** requiring:

- The vehicle manufacturer to obtain a **certificate of compliance** for their **Cyber Security Management System** => prerequisite to obtain vehicle type approval
- **Vehicle type approval** with regard to cyber security

Annex A: Draft proposal to introduce regulation on cyber security
Annex 1: Requirements for cyber security
Annex 2: Information document
Annex 3: Communication
Annex 4: Arrangements of approval marks
Annex 5: Model of certificate of compliance

UN **Resolution**

- May be used by Contracting Parties, vehicle manufacturers and other stakeholders as guidance on how to meet the requirements of the regulation and how to amend national regulations on vehicle registration and/or PTI.

Chapter 1: Introduction
Chapter 2: Definitions (and abbreviations)
Chapter 3: Cyber security principles
Chapter 4: Threats to vehicle systems and ecosystem
Chapter 5: Mitigations
Chapter 6: Requirements for cyber security processes and how to evidence their application
Annex B: List of threats and corresponding mitigations
Annex C: List of Security Controls related to mitigations incl. examples

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General:

- The group drafted the proposed Regulations on Cyber Security and Software updates according to the 1958 Agreement of UN ECE (=> as UN Regulations)
- In case WP.29 IWG ITS/AD would like to bring the content of the Task Force forward as a GTR, further review will be required
- WP.29 IWG ITS/AD may need to further discuss the scope of the new draft Regulations since there had been no participation from industry representatives of vehicle category O, R, S and T, and very late involvement of IMMA. Therefore, category L, O, R, S and T are put in parenthesis.

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Software updates:

- The group reviewed the entirety of Annex A of the draft Recommendation on Software updates (Regulatory Annex) for the first time during TFCS-12 @ Seoul (17-19 April 2018)

- The structure of Annex A was revised in order to:
  (a) align with the draft template for UN Regulations, and
  (b) better differentiate between requirements for:
    - OEM processes vs. vehicle approval
    - General software updates vs. OTA updates

- Further work is necessary:
  - content of the paper needs to be finalised and agreed
  - regulatory text needs to be checked for whether/where changes may be needed for automated vehicles

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Software updates (continued):

- OICA suggested there may be a need to have independent approvals for production vehicles and vehicles that are already registred:
  - initial suggestion is to insert text highlighting the issue into the recommendation. Depending on further considerations it may be added into the draft regulation
  - Japan raised initial concerns about the approach but will check the issue internally
  - OICA was invite to develop their recommendation so that the task force may further contemplate it
- RxSWIN approach to be finally checked, where to put its conceptual elements

  => new S/W update process Reg. vs. existing system regulations

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Cyber Security:

- The group reviewed the entirety of Annex A (Regulatory Annex) and Chapter 7 (Recommendations) for the first time during TFCS-12
- Annex C ("Examples of Security Controls related to mitigations") is kept as an informative annex
- Further work is necessary, particularly:
    - refine Annex A to fit standard UNECE regulatory text
    - further reflection on Annex A (regulatory text) was requested to ensure its appropriateness
    - content of the consolidated paper needs to be finalised and agreed, including verification that Annexes B and C are appropriate and accurate.

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Cyber Security (continued):

- Options for definition regarding lifetime reflected in documents
- Review whether changes are necessary to the use of the wording “incident” vs. “attack” in the recommendation paper and draft regulation

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Next steps:

Finalize the recommendation papers
(confirm and agree on content):

- The group agreed to hold additional web meetings in order to progress the remaining work (one C/S and one S/W update webinar after the WP.29 IWG ITS/AD meeting)

- If necessary, an addtional physical meeting will be scheduled in September

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Next meetings:

TFCS ad hoc „ Review Software Update Paper 2“ *(Webmeeting)*	12 June 2018 *done*
TFCS ad hoc „Review Cyber Security Paper 2“ *(Webmeeting)*	13 June 2018 *done*
TFCS ad hoc „Cyber Security Review II“ *(Webmeeting)*	July 2018 *time tbd*
TFCS ad hoc „Software updates Review II“ *(Webmeeting)*	July 2018 *time tbd*
TFCS-13 (if needed; in Europe)	Sept. 2018

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Latest working documents:

Cleaned and consolidated versions after TFCS-12

S/W Update Process	>> Recommendation	TFCS-12-18
	>> Annex A: Draft Regulation	TFCS-12-19
Cyber Security Recommendation (incl. Annex A „Draft Reg.“)		TFCS-12-17rev1

Latest documents after 1st round of Webmeetings

S/W Update Process >> Restructured Annex A incl. WebEx outcome
=> TFCS-ahRSUP2-05

Cyber Security Recommendation Paper incl. WebEx outcome (Annexes not discussed)
=> TFCS-ahRCSP2-06

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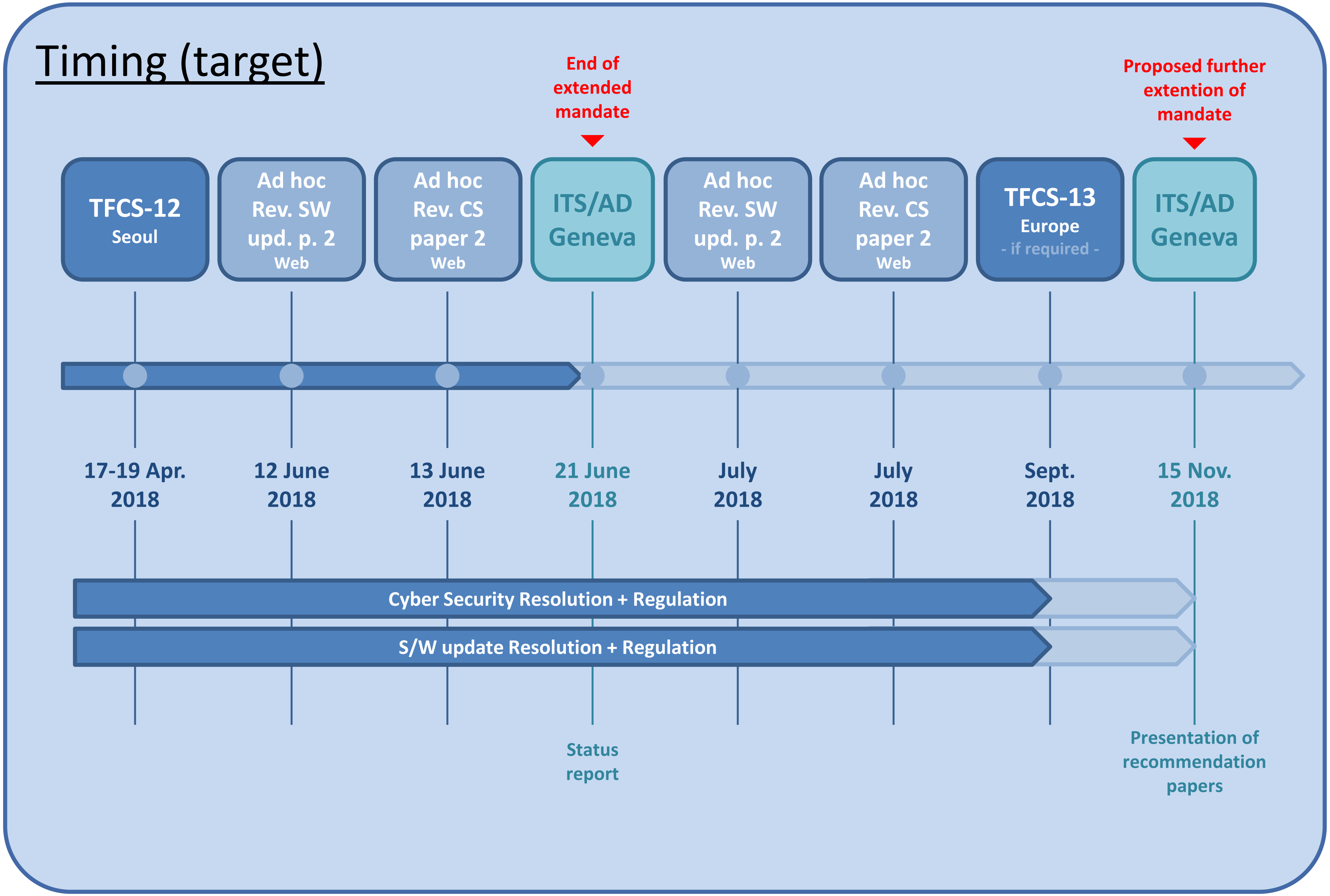

Timing (target)

End of extended mandate

Proposed further extention of mandate

TFCS-12 Seoul	Ad hoc Rev. SW upd. p. 2 Web	Ad hoc Rev. CS paper 2 Web	ITS/AD Geneva	Ad hoc Rev. SW upd. p. 2 Web	Ad hoc Rev. CS paper 2 Web	TFCS-13 Europe - if required -	ITS/AD Geneva
17-19 Apr. 2018	12 June 2018	13 June 2018	21 June 2018	July 2018	July 2018	Sept. 2018	15 Nov. 2018

Cyber Security Resolution + Regulation

S/W update Resolution + Regulation

Status report

Presentation of recommendation papers