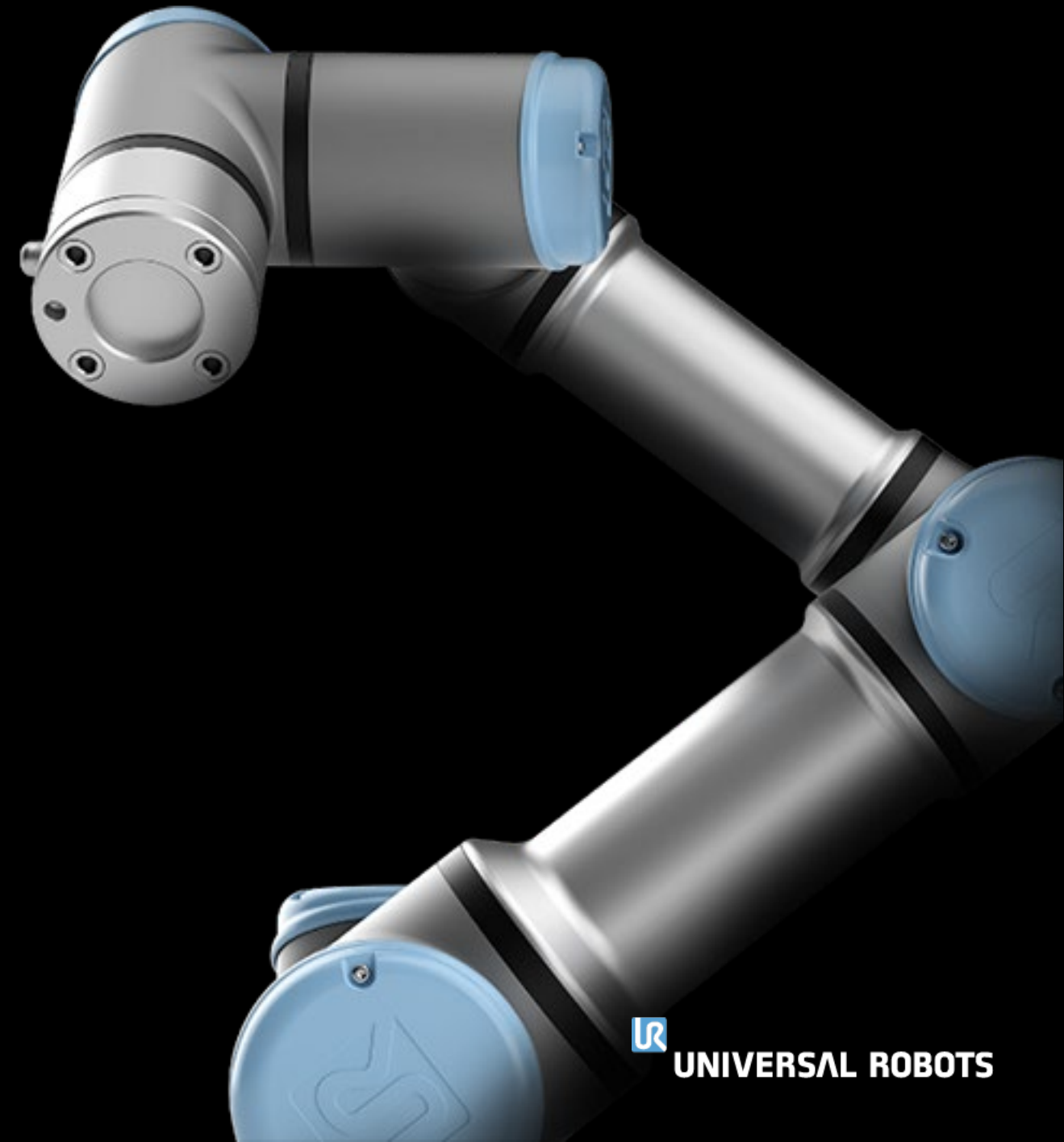


ISO TC299 WG3 Industrial robotics, Safety



ISO TC299 WORKING GROUPS (WG)

Within ISO standards, terminology is defined in the standard if it is unique or particular to that standard

- WG1: terminology
- WG2: service robot, safety *(can be all ages, all abilities)*
- WG3: industrial robot, safety *(public restricted or excluded)*
- WG4: service robot, non-safety (performance, characteristics...)
- JWG5: medical – under IEC lead *(Joint WG with IEC)*
- WG6: service robot, modularity, non-safety

There are others in this IEEE meeting who can share current status of the Service & Medical domains. I have concentrated on WG3, SG1 and within the context of SG1 – the work of WG3.

ISO 10218-1 AND -2

- **Part 1: Robotics** — Robots And Robotic Devices - Safety Requirements For Industrial Robots - Part 1: Robots
- **Part 2: Robotics** — Robots And Robotic Devices - Safety Requirements For Industrial Robots - Part 2: Robot Systems And Integration
- UNDER REVISION (later slide)

ISO/TS 15066:2016

- ISO Technical Specification (TS) 15066:2016 – Collaborative Robots
 - Not a standard, however it does provides safety requirements for **collaborative industrial robot applications** that build on ISO 10218.
 - Companion document to ISO 10218 Part 1 & 2.
 - Contents rolled into the revisions of ISO 10218-1 and -2.



ISO/TR 20218-1 AND -2

- Part 1: Robotics — Safety design for industrial robot systems — Part 1: End-effectors
- Robotics — Safety design for industrial robot systems — Part 2: Manual load/unload stations
- Theses TRs
 - Are NOT standards, however they provide safety guidance.
 - Companion documents to ISO 10218 Part 2.
 - Are being rolled into the revision of ISO 10218-2, with some being normative (mandatory or requirements).

ISO/TR 20218-1 AND -2

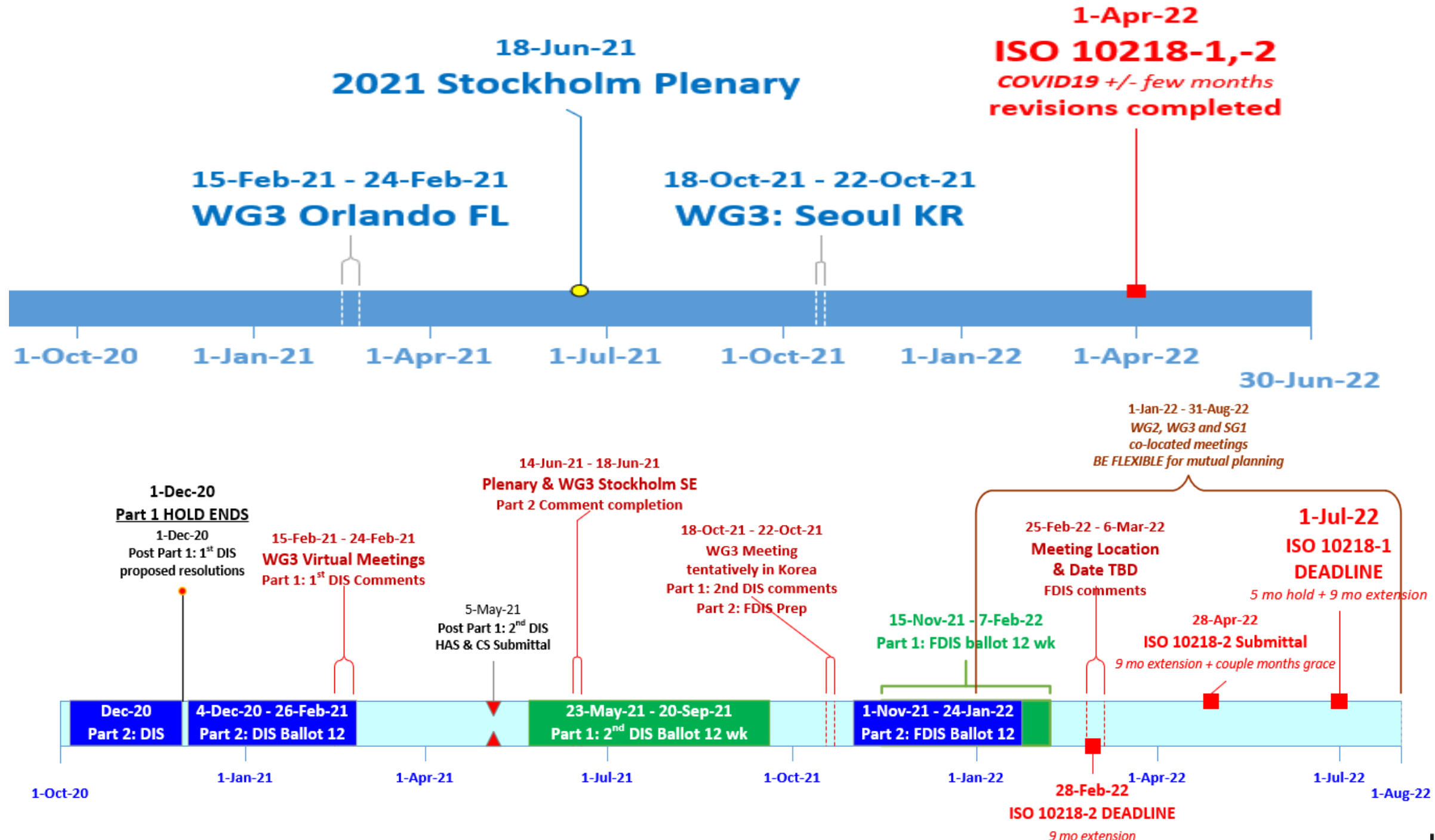
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- Theses TRs
 - Are NOT standards, however they provide safety guidance.
 - Companion documents to ISO 10218 Part 2.
 - Are being rolled into the revision of ISO 10218-2, with some being normative (mandatory or requirements).

ISO 10281-1 AND ISO 10218-2 (HARMONIZED)

- Currently, 2011 editions are valid and adopted (directly or indirectly) in Europe (harmonized), North America, Japan, Korea and Brazil.
- Both ISO 10218-1 and -2 are under revision.
 - Was to finish Summer 2021, but with COVID... Maybe Summer 2022.
- Goals are to make clear what is required of the:
 - Robot;
 - Robot system (includes end-effector);
 - Robot application (includes workpiece and application equipment);
 - Collaborative application(s) – roll TS 15066 into the revision documents (mostly part 2);
 - Incorporate the 2 TRs into the Part 2 revision;
 - Functional safety requirements – just what safety functions SHALL be provided...
- **Plus, we have the BIG challenge of retaining harmonization status!**

ISO 10281-1 & ISO 10218-2 REVISIONS

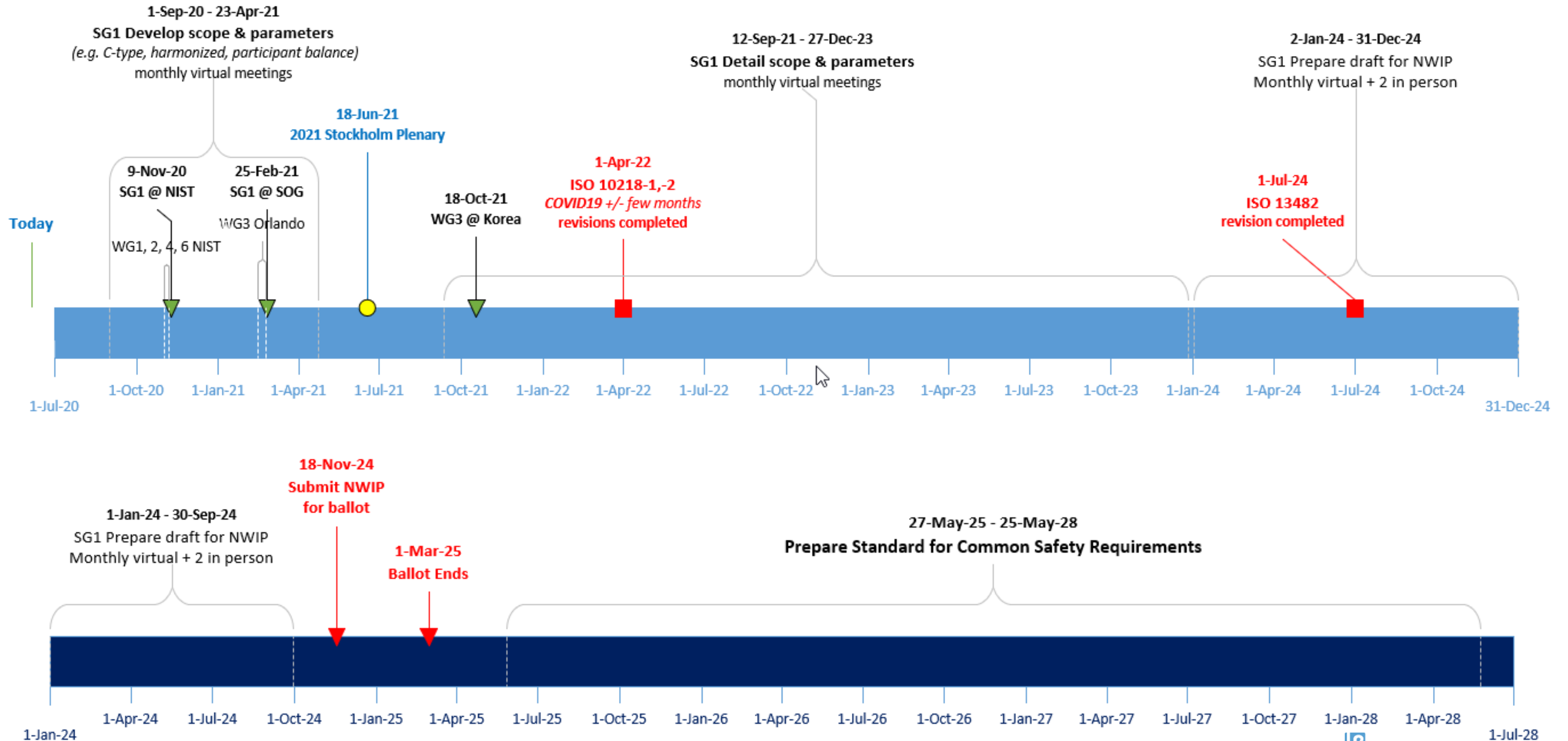
due to COVID, the timelines have shifted..



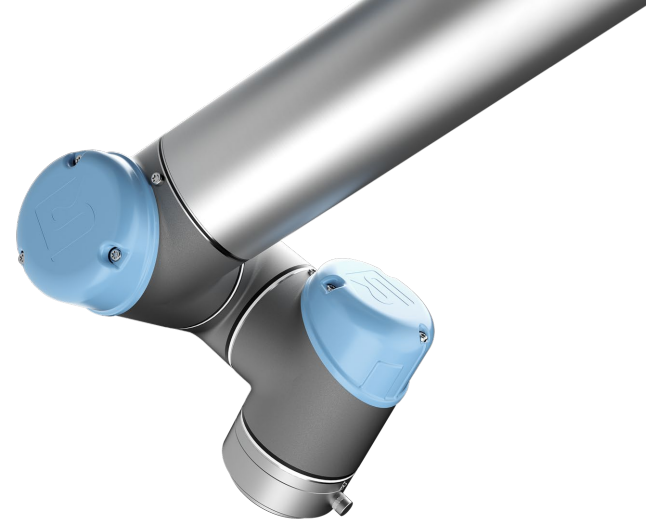
WHAT ELSE... SG1

- There was a ballot for re-organization, of which the implementation plan is being drafted by SG1 (Study Group 1).
- Results:
 - There will be “common” safety standard for WG2 and WG3 (covering common safety requirements for all non-medical robot domains & sectors).
 - Meetings of the new WG for common requirements, WG2, WG3 will be jointly held to further collaboration, cooperation...
 - The new common standard will contain terminology that is common, which could have an unintended consequence of the withdrawal of some existing TC299 terminology standards (created by WG1).
 - *Opportunity for aligning terminology with IEEE for any common terminology.*
- **But starting requires synching of WG2 and WG3 to provide experts.**
See the next slide for agreed schedule...

HOW TO SYNC... *(below is agreed path forward)*



QUESTIONS...



Roberta Nelson Shea
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