

And this



# WP5: Joint technology development around SCT and future lepton colliders

Vitaly Vorobyev

2<sup>nd</sup> general WP5 meeting

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All the project materials  
must contain this



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# WP5: Tasks

Task	Activity	Institutes
5.1	Internationalization of SCT	BINP, CERN
5.2	Collider technologies	CERN, BINP, IJCLab
5.3	Software for detector design	BINP, CERN
5.4	Inner tracker	BINP, INFN (Frascati, Ferrara)
5.5	Central tracker	BINP, INFN (Lecce, Bari)
5.6	Particle identification system	BINP, JLU-Giessen

First deliverable and milestone in July 2021 (M18)

## 1<sup>st</sup> general WP5 meeting

Moscow, Sep. 27, 2019

<https://indico.cern.ch/event/851809/>

## 2<sup>nd</sup> general WP5 meeting

Zoom, Sep. 28-29, 2020

<https://indico.inp.nsk.su/event/37/>

# WP5: Deliverables

Deliverable	Task	Due to	Title
D5.2	5.3	M18	Status report on the <b>software</b> for the SCT detector
D5.4	5.4	M24	Status report on R&D work on <b>Inner Tracker</b> for the SCT detector
D5.6	5.5	M24	Status report on R&D work on <b>Central Tracker</b> for the SCT detector
D5.8	5.6	M24	Status report on R&D work on <b>Particle Identification</b> system for the SCT detector
D5.1	5.2	M36	Report on joint development of <b>collider technologies</b> for lepton colliders
D5.3	5.3	M44	Final report on the <b>software</b> for the SCT detector
D5.5	5.4	M44	Final report on R&D work on <b>Inner Tracker</b> for the SCT detector
D5.7	5.5	M44	Final report on R&D work on <b>Central Tracker</b> for the SCT detector
D5.9	5.6	M44	Final report on R&D work on <b>Particle Identification</b> system for the SCT detector

# WP5: Milestones

Milestone	Task	Due to	Title
1	5.3	M18	Release of the software framework for SCT detector
2	5.1	M18	Kick-off meeting of collaboration around the SCT detector
3	5.2	M42	Collider prototype with high beam current ( $\mu\mu$ -tron)
4	5.4	M42	Prototype for the SCT inner tracker based on the C-RWELL or Compact TPC
5	5.5	M42	Prototype for the SCT central chamber
6	5.6	M42	Prototype for PID system of the SCT detector

A conference contribution is foreseen as a mean of verification for each milestone (except the kick-off meeting)

# WP5: internal tools

1. Email list: [sct-cremlinplus@inp.nsk.su](mailto:sct-cremlinplus@inp.nsk.su)
2. Wiki pages: <https://ctd.inp.nsk.su/wiki/index.php/CREMLINplus>
  - List of SCT talks [https://ctd.inp.nsk.su/wiki/index.php/SCT\\_talks](https://ctd.inp.nsk.su/wiki/index.php/SCT_talks)
3. Indico category: <https://indico.inp.nsk.su/category/4/>
4. GitLab server: <https://git.inp.nsk.su/>
5. Software development server: proxima.inp.nsk.su
6. What else we need?
  - New public website

Task leaders are responsible for communicating within the task community

- Regular meetings are expected
- Dedicated email list could be useful

# WP5: 1<sup>st</sup> year timeline

- Timeline for the 1<sup>st</sup> 12 months was composed in March 2020 (pre-pandemic era)
- Planning have been tricky so far due to COVID-19
  - Can we expect more stable situation next year?
- We need to update the WP5 M1-M12 timeline
- We should reveal potential risks related to the pandemic situation for the M12-M24 period
  - As soon as we understand some deliverable or milestone cannot be done, we must contact DESY and discuss the situation
  - Amendments are possible if prepared in advance

CREMLINplus WP5 M1-M12 timeline														
Task	Subtask	Subtask leader	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
5.1. Internationalization and visibility	Plenary talk on SCT at CHARM20	Vitaly Vorobyev												
	Workshop on future SCT factories	Vitaly Vorobyev												
	Public SCT webpage development	TBD												
5.2. Collider technologies	TBD													
5.3. SCT detector software	Full detector geometry in DD4Hep (barrel)	Andrey Sukharev												
	Full detector geometry in DD4Hep	Andrey Sukharev												
	Simplified reconstruction algorithm for each subsystem	Andrey Sukharev												
	Full simulation and reconstruction of TPC as inner tracker	Andre Sailer												
	CVMFS repository at CERN	Andre Sailer												
5.4. Inner tracker	Technical Design of TPC prototype	Lev Shekhtman												
	Technical design of cylindrical muRWELL prototype	Giovanni Benchivenni												
5.5. Central tracker	Conceptual design of the prototype	Franco Grancagnolo												
	Mechanical design of the prototype	Alessandro Miccoli, Alexander Popov												
	Simulation of the prototype	Fedor Ignatov												
	Study of the wire properties	Alexander Popov												
5.6. Particle identification	PID requirements for endcup and barrel from physics													
	Optimized conceptual design of the PID system	Michael Dueren												
	Prototyping FARICH option (full ring detect)	Alexander Barnyakov												
	Prototyping FDIRC option with SIPM readout (?)	Michael Dueren												
	Beam tests of existing prototypes (both options) (?)	Alexander Barnyakov												

# Backup

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# CREMLINplus finances

- Tom's presentation at the Kick-off Workshop:
  - <https://indico.desy.de/indico/event/24963/contribution/4>