

Overview of the CBM-STS timeplan and links to BM@N-STS planning

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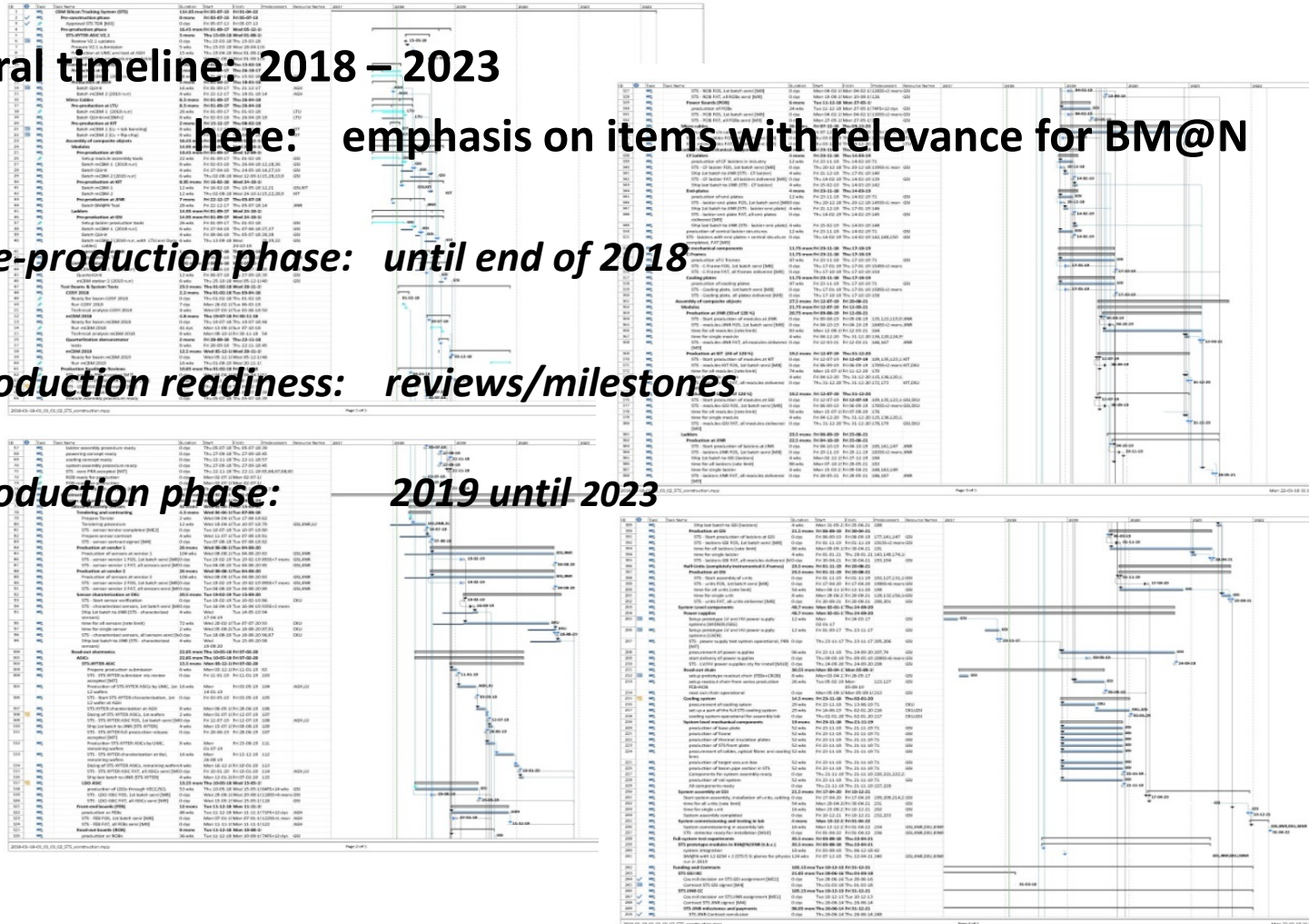
CREMLIN WP3 Work Meeting on the BM@N-2 Silicon Tracking System,
5 – 6 July 2018, JINR-VB LHEP, Dubna

CBM-STS Project Plan

General timeline: 2018 – 2023

here: emphasis on items with relevance for BM@N

- **pre-production phase: until end of 2018**
- **Production readiness: reviews/milestones**
- **Production phase: 2019 until 2023**



CBM-STS Project Plan

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- pre-production phase: until end of 2018
 - development and characterization of final prototype components
 - in-beam tests: sensor/module test at COSY, 3/2018
 - mSTS: module/ladder/read-out/data transport test in mCBM: 9/2018 and Q3-Q4/2019
- Production readiness: reviews/milestones
- Production phase: 2019 until 2023

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- pre-production phase: until end of 2018
- Production readiness: reviews/milestones
 - sensor PRR: 4/2018
 - ROB/POB PRR 10/2018
 - STS module assembly procedure: 9/2018
 - STS ladder assembly procedure: 9/2018
 - STS-XYTER PDR: 11/2018
 - STS core PDR: 11/2018
- Production phase: 2019 until 2023

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- Production phase: 2019 until 2023
 - sensors: tendering, contract signed: Q3/Q4 2018 ; production 1/19 – 4/20
 - microcables: production 5/2019 – 5/2021
 - STS-XYTER ASIC: full production 7/2019 - 2/2020
 - FEB-8 : full production 5/2019
 - modules: 9/2019 – 9/2021
 - ladders: 12/2019 – 3/2022
 - powering – LDO + boards: 5/2019 – 2/2020
 - read-out boards: 11/2018 – 5/2019
 - system assembly: 10/2020 – 8/2022
 - ready for installation: 2/2023

Sensor production

- Production Readiness Review:
 - took place on 23 April 2018
 - some questions, being addressed
 - general go-ahead with the preparation of the tender
- tendering:
 - start in July/August 2018
 - duration: up to 3 months
- sensor production
 - from beginning of 2019
 - First-of-series: ca. 7/2019
 - production until ca. end 2020

Microcables

- prepare micro cable production: 10/2018 – 3/2019
- micro cable PRR: 3/2019
- ordering: 3/2019
- production: 5/2019 – 5/2021
- first-of-series batch: 7/2019
- all delivered: 5/2021

STS-XYTER ASIC

- initial production done: 2/2019
- QA at AGH: 6/2019
- first-of-series batch delivered: 10/2019
- full production: 7/2019
- all ASICS delivered to production sites: 2/2020

Front-end board

- Conceptual Design of the FEB: 10/2017
- Tests of GSI-designed prototype FEBs in mSTS@mCBM: June – October 2018
- Final design and functional prototype FEB in final geometry (≥ 10 pc): 03/2019
- Production of 2000 FEBs: 05/2019
- Site Acceptance Test passed: 05/2019

Modules

production at GSI, JINR, KIT

- start production: 9/2019
- first of series: 12/2019
- all modules delivered: 9/2021

Ladders

production at GSI, JINR

- start production: 12/2019
- first of series: 4/2020
- all ladders delivered: 3/2022

Powering

- LDO ASIC
 - PRR: 2/2019
 - production: 5/2019
 - first-of-series: 7/2019
 - all delivered: 2/2020
- Power boards
 - production: 11/2018 until 5/2019
 - first-of-series: 1/2019
 - all delivered: 5/2019

Read-out board, read-out chain

- C-ROB: availability and test in mCBM
6/2018 – 9/2018
- ROB: Production 11/2018 – 5/2019

System Engineering, mechanics

- core review, construction design: 11/2018
- production of CF ladders: 3/2019 – 9/2019
- ladder end plates: 5/2019 -9/2019
- production C-frames: 11/2019 – 10/2020
- production cooling plates: 11/2019 – 10/2020
- production box components: 1/2020 – 7/2020
- beam pipe section: production 12/2020 – 6/2022
- system assembly: 10/2020 – 8/2022

Links to BM@N-2 STS planning

- CBM-STs construction model fully detailed
 - modules and ladders exactly defined: 11/2018
 - available for BM@N-STs construction model
 - CBM-STs front-end electronics and read-out chain demonstrated
 - start adaptation for BM@N: in the course of mCBM preparation and running: 9/2018
 - including prior definitions of BM@N r/o needs, e.g. at this meeting
 - CBM-STs modules – first of series available
 - lessons learned from mSTs: 9/2018
 - start producing modules for BM@N-STs: 12/2019
 - CBM-STs ladders – first of series available
 - lessons learned from mSTs: 9/2018
 - start producing ladders for BM@N-STs: 4/2020
- **ladders available for BM@N-STs earliest from mid 2020 on**
- **planning of BM@N-STs system and component availability accordingly, detector completed by end 2020, or in 2021?**