

NAGI/SHINE 2020+ PROGRAMME STATUS AND PLANS

MG



STATUS



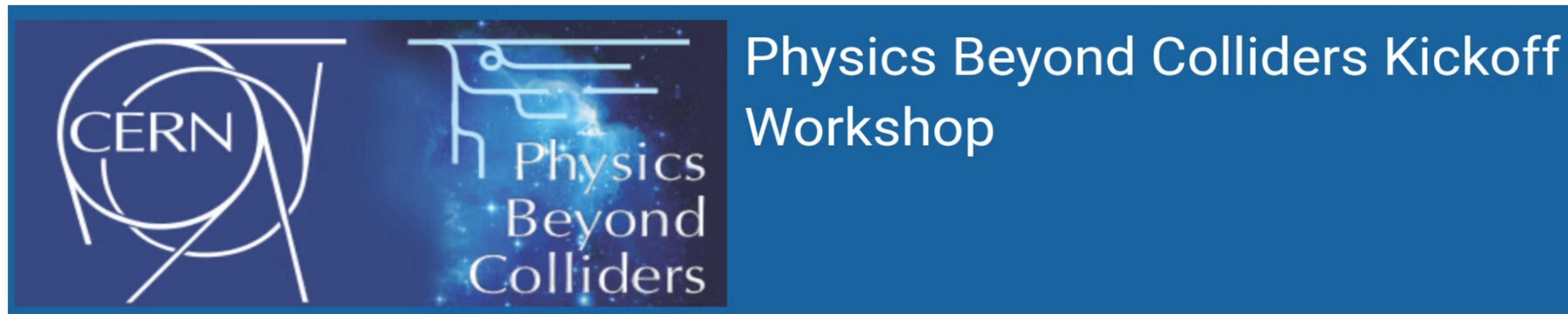
PLANS



STATUS

SEPTEMBER 2016 :

NAGI/SHINE PRESENTS THE FIRST IDEAS ON PHYSICS
BEYOND 2020 AT



<https://indico.cern.ch/event/523655/>

ANTONI ADUSZKIEWICZ AND SZYMON PULAWSKI
ARE NOMINATED AS THE NAGI REPRESENTATIVES
AT THE FOLLOWING MEETINGS

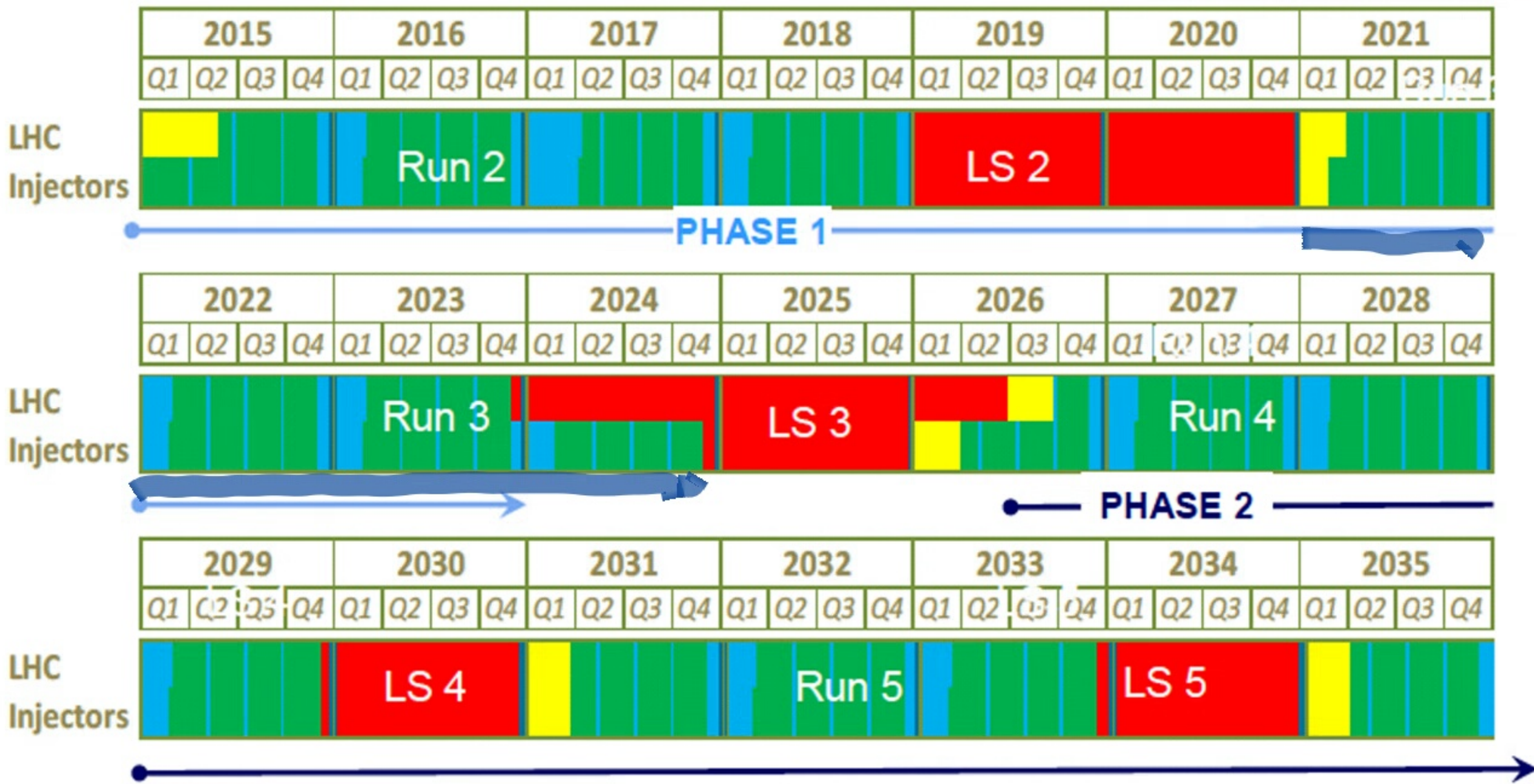
OCTOBER 2016 :

NAGI/SHINE INFORMS SPSC ON ITS INTENTION
TO CONTINUE MEASUREMENTS BETWEEN LS2 AND LS3 :

LS2 starting in 2019 => 24 months + 3 months BC
LS3 LHC: starting in 2024 => 30 months + 3 months BC
Injectors: in 2025 => 13 months + 3 months BC



DATA TAKING POSSIBLE
IN 2021, 2022, 2023
AND 2024



Status report to the proposal SPSC-P-330

**Report from the NA61/SHINE experiment
at the CERN SPS**



CERN-SPSC-2016-038 / SPSC-SR-197
08/10/2016

7 Ideas to Extend the NA61/SHINE Physics Program

The approved data-taking programme for NA61/SHINE should be completed by the end of 2018. The collaboration is now considering possible continuation of measurements after Long Shutdown 2. This would require a significant upgrade of the NA61/SHINE facility.

The planned measurements are motivated by questions and requirements coming from communities working on physics of strong interactions and neutrino physics.



FEBRUARY 2017:

Minutes of the Meeting of NA61/SHINE Collaboration Board
Kraków
23-FEB-2017

The CB recommendation related to the 2020+ plans

The CB encourages drafting and submission to the SPSC by October 2017 of an addendum on NA61/SHINE continuation in the period 2021-2024. Physics goals of the new program are:

- **Study of open charm and multi-strange hyperon production,**
- **Measurements of identified hadron flux from replica targets of the DUNE and HyperK experiments**

SZYMON WAS APPOINTED THE COORDINATOR OF
ADDENDUM DRAFTING.

The CB recommends R&D and tests related to detector upgrades needed for the new measurements:

- TPC read-out upgrade based on the ALICE TPC electronics (for details see slides of Rainer Renfordt presented at the Hardware Workshop in Krakow, February 20-21, 2017)
- Construction of the Large Acceptance Vertex Detector based on the ALPIDE sensors used for the ALICE ITS upgrade (for details see the NA61/SHINE addendum: CERN-SPSC-2015-038 ; SPSC-P-330-ADD-8)
- Trigger and DAQ upgrade (for details see slides of Oskar Wyszynski presented at the Hardware Workshop in Krakow, February 20-21, 2017)
- Replacement of the ToF-L/R detectors by new mRPC based detectors developed in JINR, Dubna (for details see slides of Vadim Babkin presented at the Hardware Workshop in Krakow, February 20-21, 2017)
- Upgrade of the PSD detector (for details see slides of Sergey Morozov presented at the Hardware Workshop in Krakow, February 20-21, 2017)

JULY 2017;



NA61 BEYOND 2020
Future Physics Opportunities with the NA61/SHINE Spectrometer
July 26-28, 2017

 UNIVERSITÉ DE GENÈVE
FACULTÉ DES SCIENCES
Section de physique

 SHINE NA61

<https://indico.cern.ch/event/629968/>

This workshop will focus on development of the physics program for the NA61/SHINE detector in the years after CERN's Long Shutdown 2. This versatile detector has been used in recent years for heavy ion physics as well as particle production measurements for understanding neutrino beams and cosmic ray air showers. The collaboration is open to new potential physics opportunities from these or other physics communities. This workshop will provide a forum to present plans and ideas to current and potential new collaborators. A tour of the detector will be conducted.

NEW MEASUREMENTS REQUIRE:

- STRONG PHYSICS ARGUMENTS
- SUFFICIENT RESOURCES (FUNDING, MANPOWER)

EXAMPLES:

- OPEN CHARM MEASUREMENTS:

- STRONG THEORY SUPPORT IS NEEDED
(DEDICATED LETTERS, PUBLICATIONS, ...)

- THERE ARE OTHER EXPERIMENTAL PROGRAMMES PLANNING TO PERFORM SIMILAR MEASUREMENTS
(FAIR, NICA, J-PARC, ...)

- LT MEASUREMENTS FOR AN NEUTRINO EXPERIMENT:

- MUST BE AN EXPLICIT, WELL JUSTIFIED, REQUEST FROM THE EXPERIMENT IN QUESTION,
- NEW COLLABORATORS SHOULD JOIN NAB/SHINE

PLANS

THIS WORKSHOP:

- ESTABLISH WHETHER SUPPORT TO NABI/SHINE IDEAS ON 2020+ MEASUREMENTS IS SUFFICIENTLY STRONG
- IDENTIFY NEW IDEAS WITH A STRONG SUPPORT:
 - MEASUREMENTS FOR COSMIC-RAY PHYSICS (FRAGMENTATION, \bar{p} , \bar{d})

SEPTEMBER 2017:

- FINALIZE DRAFTING OF 2020 ADDENDUM

DECEMBER 2017:

- GET THE SPSC RECOMMENDATION OF THE 2020 PROGRAMME AND THE RB APPROVAL

2018: REQUEST FUNDING

2019: START UPGRADES