

**Operators Training Nov/2020  
News@Applications**

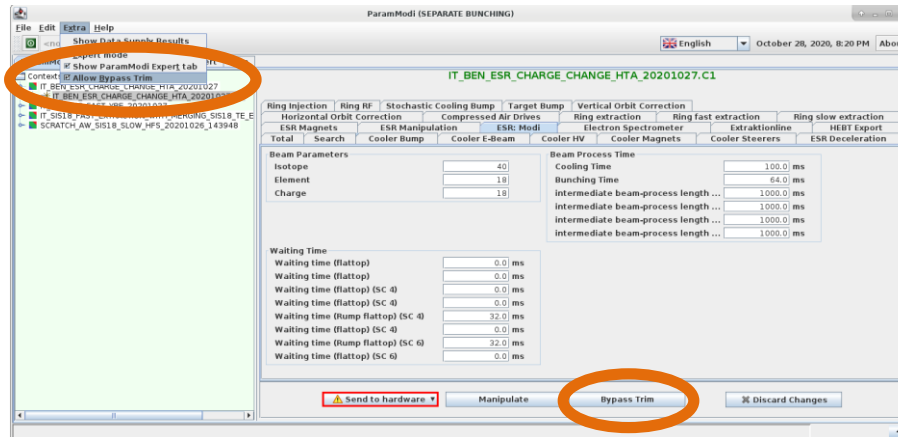
**J.Fitzek**

- Changes during Shutdown 2020
  - LSA [see Hanno's Presentation](#) ⇄
  - ParamModi
  - Scheduling App
  - Device Control
  - Digitizer App
  - StoRiMo App
  - MASP UI
  - Outlook: IonSource Development

- Performance Optimizations within LSA, which are visible from within the applications
  - Timing schedule is only supplied when it has actually changed  
=> (eventually a full data supply is necessary for problem solving)
  - Parallel Trim of Patterns within the same (e.g. 2 SIS Patterns) and within different Pattern Groups
  - Bypass Trim (quick feature for Beamlines, use with care!)

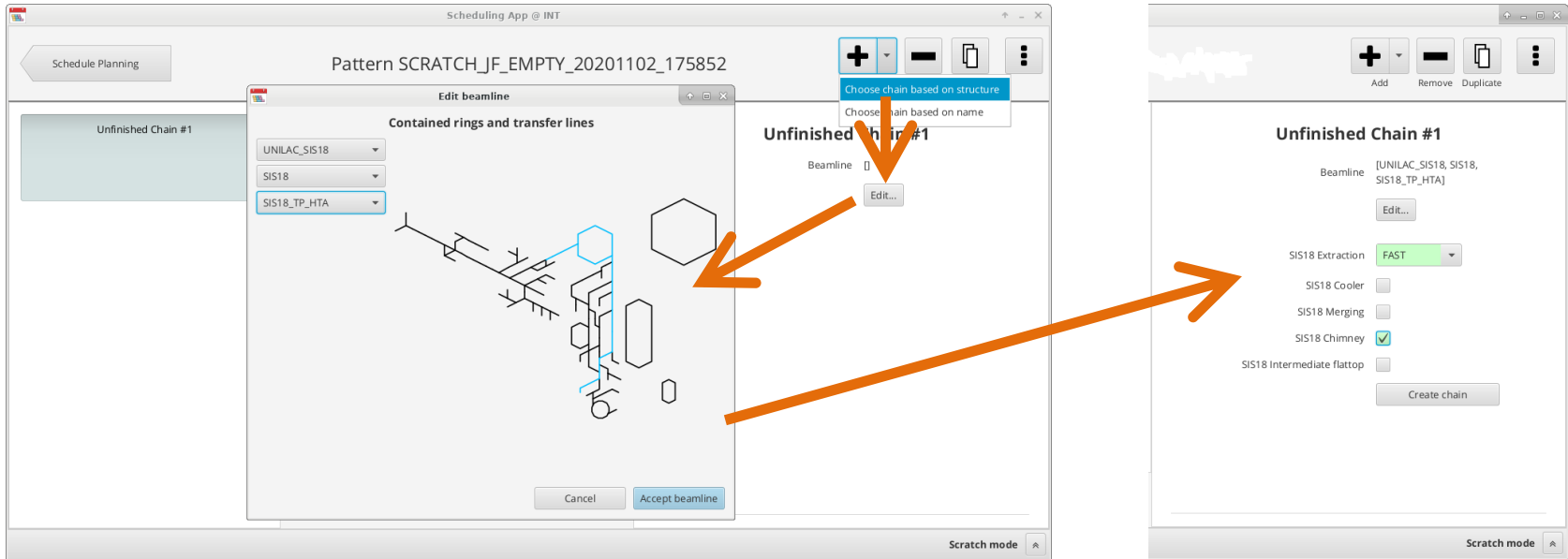
[see Hanno's Presentation ↗](#)

- Bypass Trim for the Beamlines behind the ESR:  
Pattern execution is not stopped while supplying devices (to be used with care!)



- Performance: after trim, reload contexts for the current tab only  
(instead short waiting time when switching tabs)

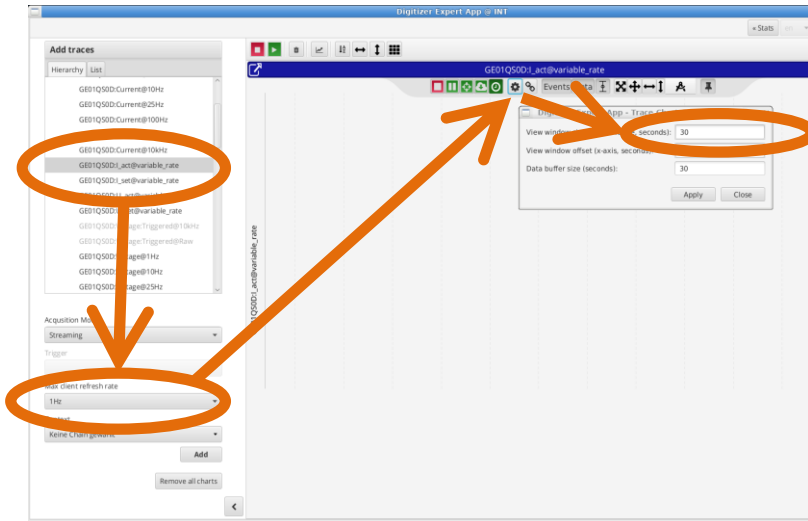
- More flexible creation of contexts for beams to targets
  - templates typically exist for rings, parts for transfer lines are generated on-the-fly



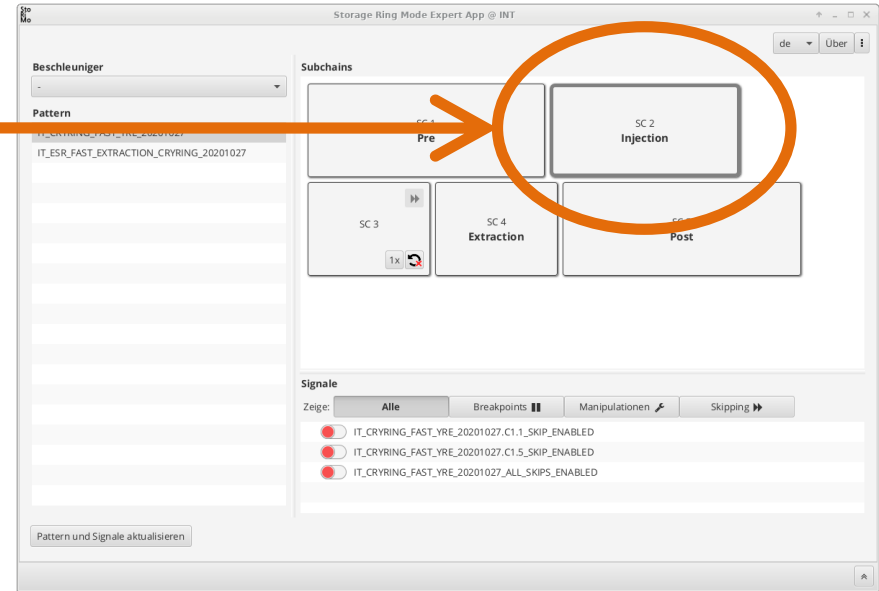
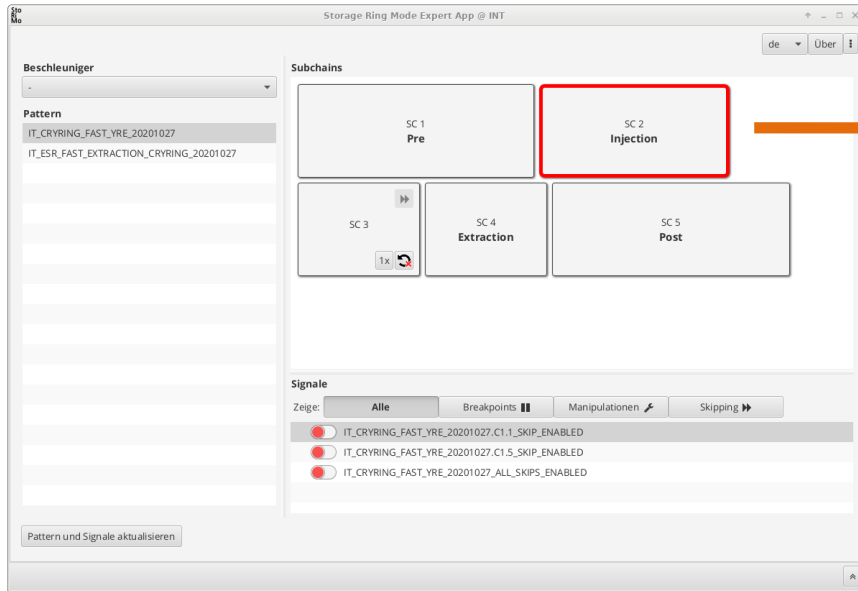
The image displays two screenshots of the Scheduling App interface. The left screenshot shows the 'Edit beamline' dialog box for 'Unfinished Chain #1'. The dialog has a title bar 'Edit beamline' and a subtitle 'Contained rings and transfer lines'. It features three dropdown menus for selecting components: 'UNILAC\_SIS18', 'SIS18', and 'SIS18\_TP\_HTA'. Below the menus is a schematic diagram of the beamline structure. At the bottom of the dialog are 'Cancel' and 'Accept beamline' buttons. The right screenshot shows the 'Unfinished Chain #1' configuration panel. It has a title bar 'Unfinished Chain #1' and a subtitle 'Beamline [UNILAC\_SIS18, SIS18, SIS18\_TP\_HTA]'. Below the subtitle is an 'Edit...' button. The panel lists several options: 'SIS18 Extraction' (set to 'FAST'), 'SIS18 Cooler' (unchecked), 'SIS18 Merging' (unchecked), 'SIS18 Chimney' (checked), and 'SIS18 Intermediate flattop' (unchecked). At the bottom is a 'Create chain' button. Orange arrows indicate the flow of information: one arrow points from the 'Edit...' button in the left dialog to the 'Edit...' button in the right panel, and another arrow points from the schematic diagram in the left dialog to the 'SIS18 Chimney' option in the right panel.

- Prepared UNILAC integration
- CRYRING Stepper Motors
  - new FESA stepper motor standard for FAIR
  - UI-wise comparable to PPOS devices at ESR

- DAQ from devices
  - Data can either come from digitizers (as before) or from new Device DAQ working settings are e.g. 1Hz, 30sec view window size



- Current SubChain indicator: now shows the last executed SubChain in grey (useful for SubChains with flexible length)





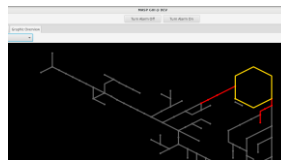
- View is now split into three separate parts to have everything fit on the screen, separate context selection, double click changes context on all tabs
  - Chain List: central overview and switch commands (beam mode, alarm on/off)

#	Chain Name	Chain Status	Error Perm	BeamMode	Last Update (Heartbeat)	LSMCen	Alarm
1	SS18_FAST_HHD_CHOPPER_TEST_LOW_VOLTAGE.C1	OFFLINE	OK	NO BEAM	28.10.2020 14:41:04	true	false
2	CHRWING_Mg_Ionol_Apexion.C1	STOPPED	OK	NO BEAM	28.10.2020 14:41:04	true	false
3	CHRWING_Pt_Septum_Sess.C1	STOPPED	OK	NO BEAM	28.10.2020 14:41:04	true	false
4	SS18_FAST_HHD_CHOPPER_TEST_HIGH_VOLTAGE.C1	OFFLINE	OK	NO BEAM	28.10.2020 14:41:04	true	false
5	CHRWING_Pt_Septum_Sess_PJP.C1	STOPPED	OK	NO BEAM	28.10.2020 14:41:04	true	false
6	SS18_SLOW_HHD_TEST05001333R4.C1	OFFLINE	OK	NO BEAM	28.10.2020 14:41:03	true	false
7	SS18_FAST_IP_SIVC_COMMUNICATION.C1	OFFLINE	OK	NO BEAM	28.10.2020 14:41:03	true	false

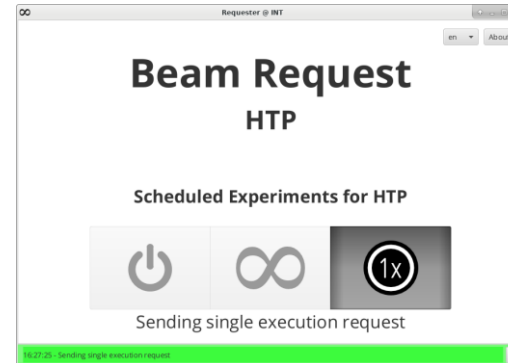
- Signal status: last update is now shown for all signals on all levels

Name	Status	Maskable	H-Mask	F-Mask	S-Mask	Beam Mode	Last Change
SS18_FAST_HHD_CHOPPER_TEST_LOW_VOLTAGE.C1	OFFLINE						
SS18	OFFLINE						
GLOBAL	OFFLINE						
CHRWING_TO_PCTWARD	STOPPED		NONE	NONE	NONE		HW42005-09-30 14:52:13
CHRWING_TO_SIVC	STOPPED		NONE	NONE	NONE		HW42005-09-30 14:52:13
CHRWING_TO_GTS30A.U1	STOPPED		NONE	NONE	NONE		HW42005-09-30 14:52:13
SS18_SIVC	OFFLINE		NONE	NONE	NONE		HW42005-10-28 14:09:22
CHRWING_TO_SIVC	STOPPED		NONE	NONE	NONE		HW42005-09-30 14:52:13
SS18_TO_GTS30A.U1	STOPPED		NONE	NONE	NONE		HW42005-09-30 14:52:13

- Accelerator View: enlarged to fit also the Unilac



- Change in the behavior of the single beam execution requests
  - For every pattern, there can be *only one* single execution request active at a time
    - request stays active, until the beam has been executed once
    - repeated single requests have no effect
    - once the beam execution has started, new single requests can be raised
- Single execution requests survive Trims as well as changes within the Pattern Group



- Goal: Full replacement of old Ion Source Application and Services
- Achievements during 2020-Shutdown
  - Setup Project structure (→ AppService), basic features running
  - first integration of new Sequencer (e.g. for IonSource-Start/Stop procedures)
  - usage of new Archiving system
- First use in 2021
  - in parallel to the existing solutions
  - switch to the new applications and services when everything is ready and approved

# Overview: Product Owners



<u>Project name</u>	<u>Product Owner</u>	<u>Developers</u>
Beam Diagnostics Applications	Miriam Klich	Harald Bräuning
"Benno" - Mirko successor	Stephan Reimann	Markus Ohlig (application) Christoph Hessler (physics)
Cross-application aspects	Christian Hillbricht	ACO-APP
Device Control	Martin Stein	Sigrid Heymell
Digitizer App	Max Müller	Benjamin Peter
Interlock Status (MASP GUI)	Petra Schütt	Max Müller
Ion Source	Aleksey Adonin	ACO-APP
ParamModi	Christoph Böhm	Anneke Walter
Profile Grid	Marcus Ohlig	Martin Stein
Scan Application	Oksana Geithner	Wolfgang Geithner
Scheduling App / BSS Control	Christoph Wetzel	Anneke Walter
Storage Ring App	Sergey Litvinov	Benjamin Peter
Top (new UNIABC)	Hans Rödl	Markus Ohlig
Web Applications (FSN, OLOG, Persondetails, Accelerator Status)	Stephan Reimann	Achim Bloch-Späth

<https://www-acc.gsi.de/wiki/Applications/AppApplicationsMain>

- LSA
  - Performance
    - Timing supplied only when needed
    - Parallel Trim
    - Bypass Trim
  - ParamModi
    - Performance
    - Bypass Trim
  - Scheduling App
    - more flexible creation of chains for beam to target

- Device Control
  - UNILAC integration
  - Crying stepper motors
- Digitizer App
  - integrated new device DAQ
- StoRiMo
  - current chain indicator
- MASP UI
  - View split into three parts
- Outlook:  
IonSource Development