

ID23-2 present and future

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ID23-2 Microcrystallography

- **ID23-2 design goals**
 - Stability (position+intensity)
 - No microfocus expertise required
 - Consistency with other MX beamlines
- **Key features**
 - 14.2 kEV fixed energy
 - Minidiffractometer with beam visualisation
 - SC3 Automatic sample changer

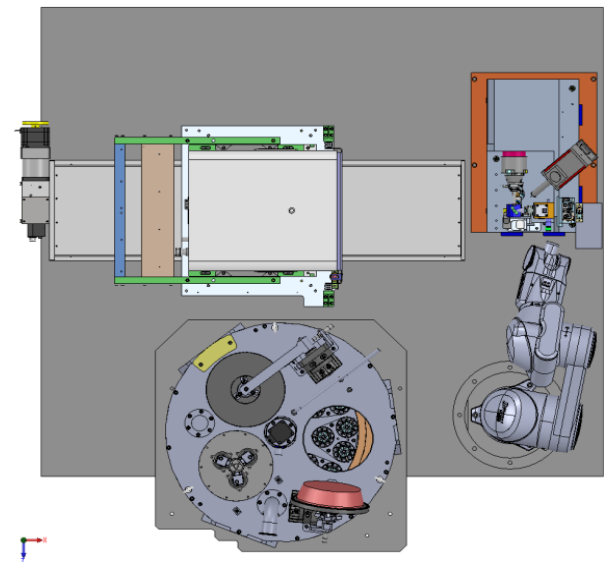
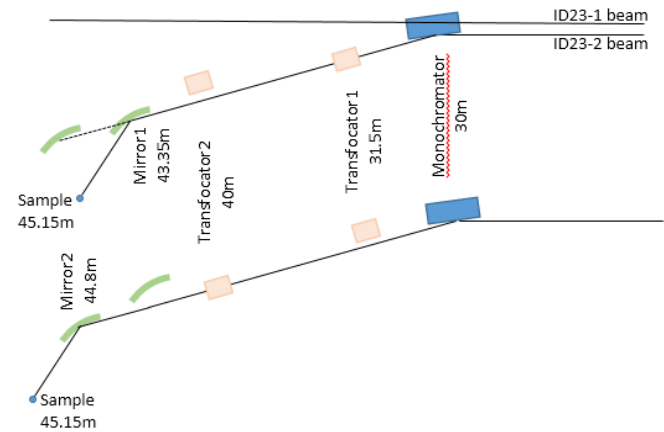
→Microcrystallography
→Serial crystallography

ID23-2 recent changes

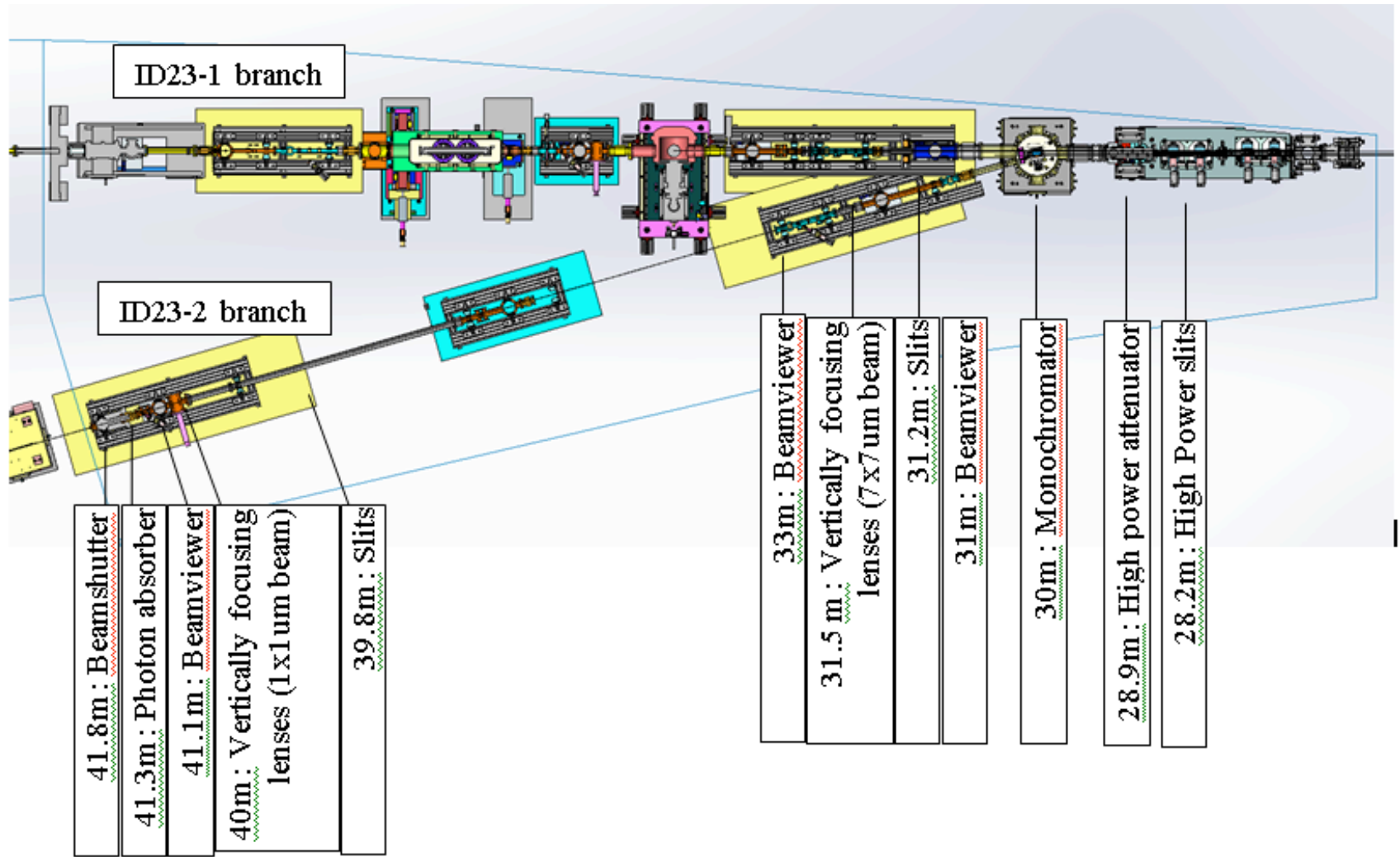
- Jan 2015: New VFM and HFM mirrors: 9.5x5.5 μm^2 spot size with $>1\text{E}12$ ph/s at 200mA.
- Jan 2014: Pilatus3 2M, readout up to 250hz
- ICEPAP driven minidiffractometer (**no** kappa) motors-> fast helical and grid scans

ID23-2 soon

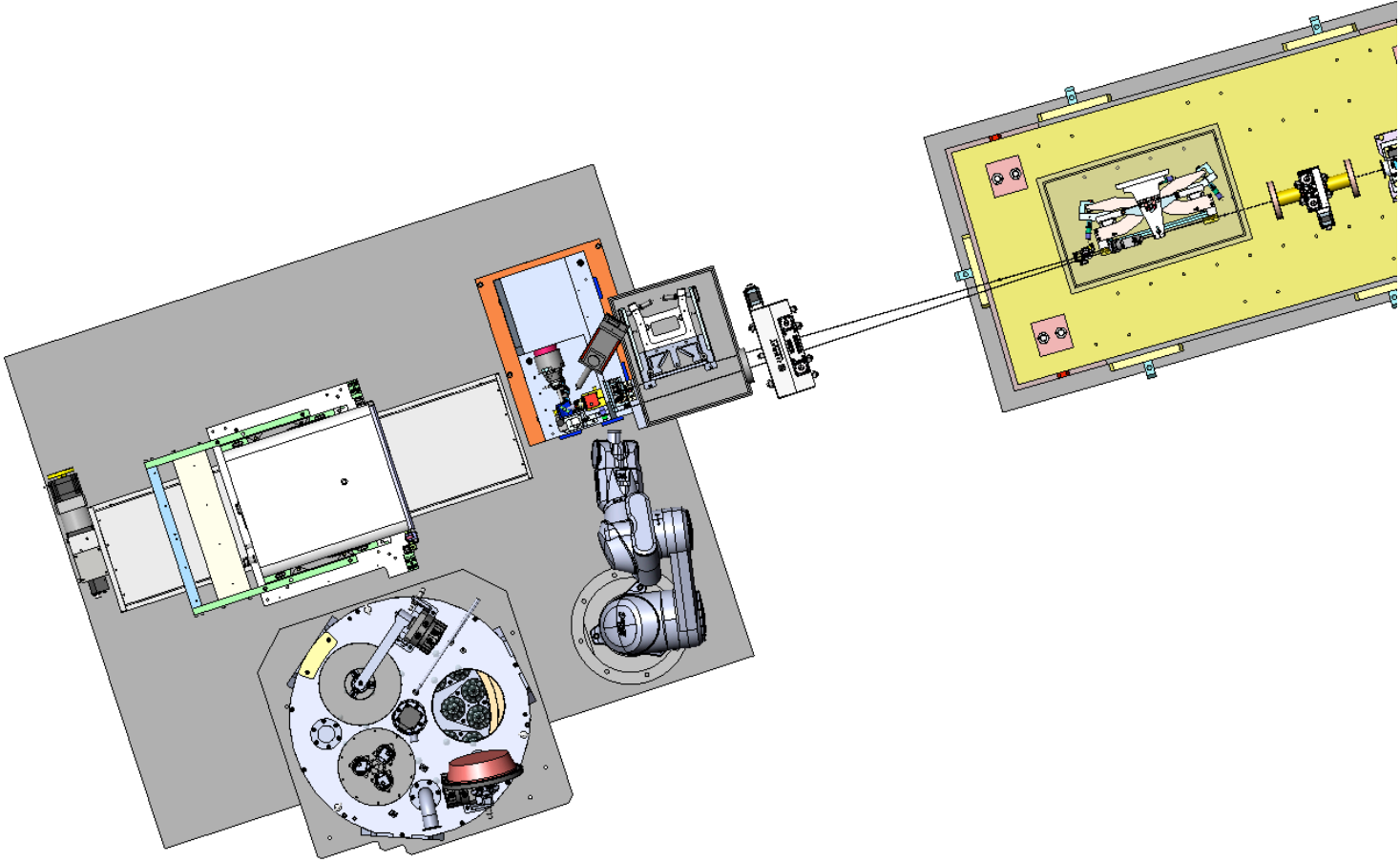
- Add new beam size ($\sim 1 \times 1 \mu\text{m}^2$, $> 2 \times 10^{12}$ ph/s)
- Switchable between beam sizes in ~ 15 minutes
- New sample environment
- High capacity dewar, FLEX SC
- Hutch Ante chamber, improved temperature stability
- New diffractometer



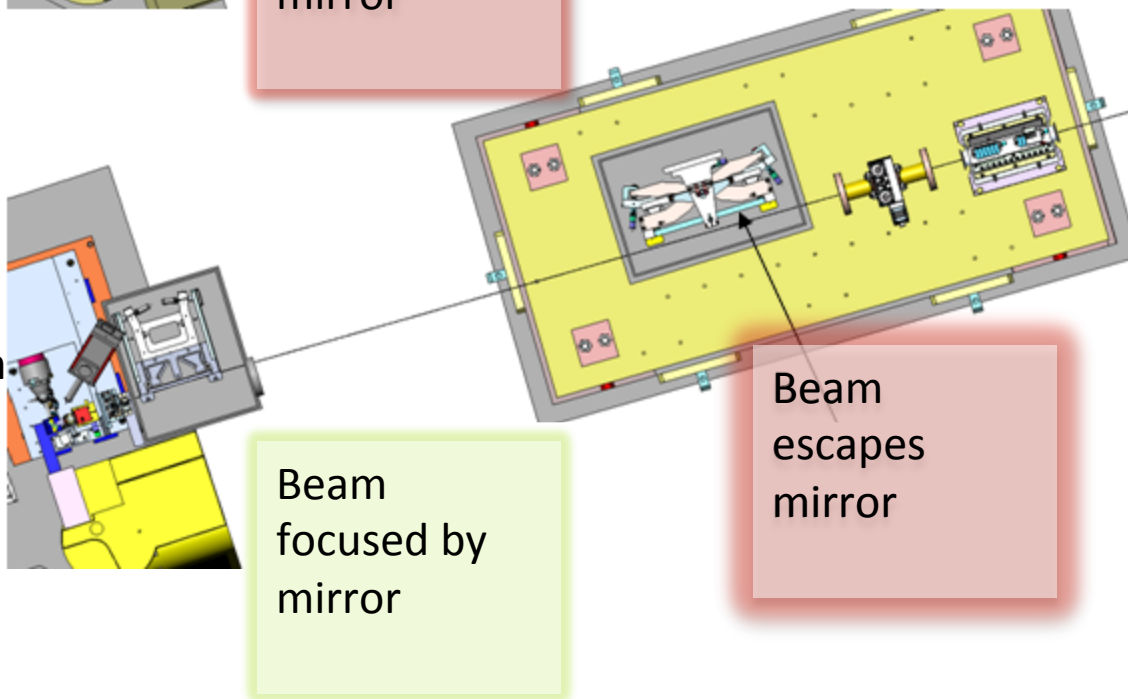
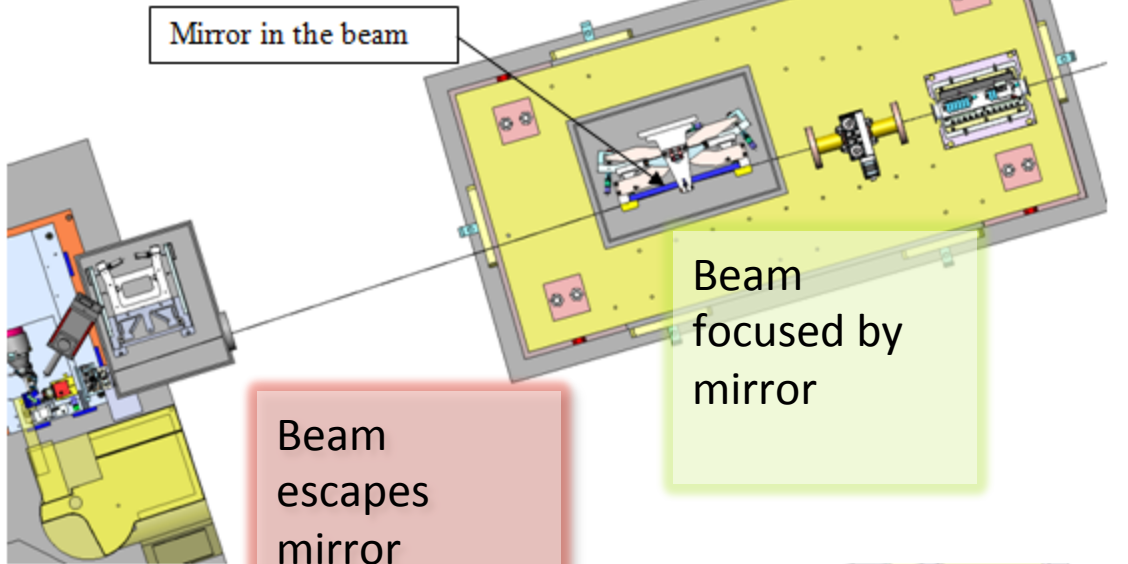
OH layout



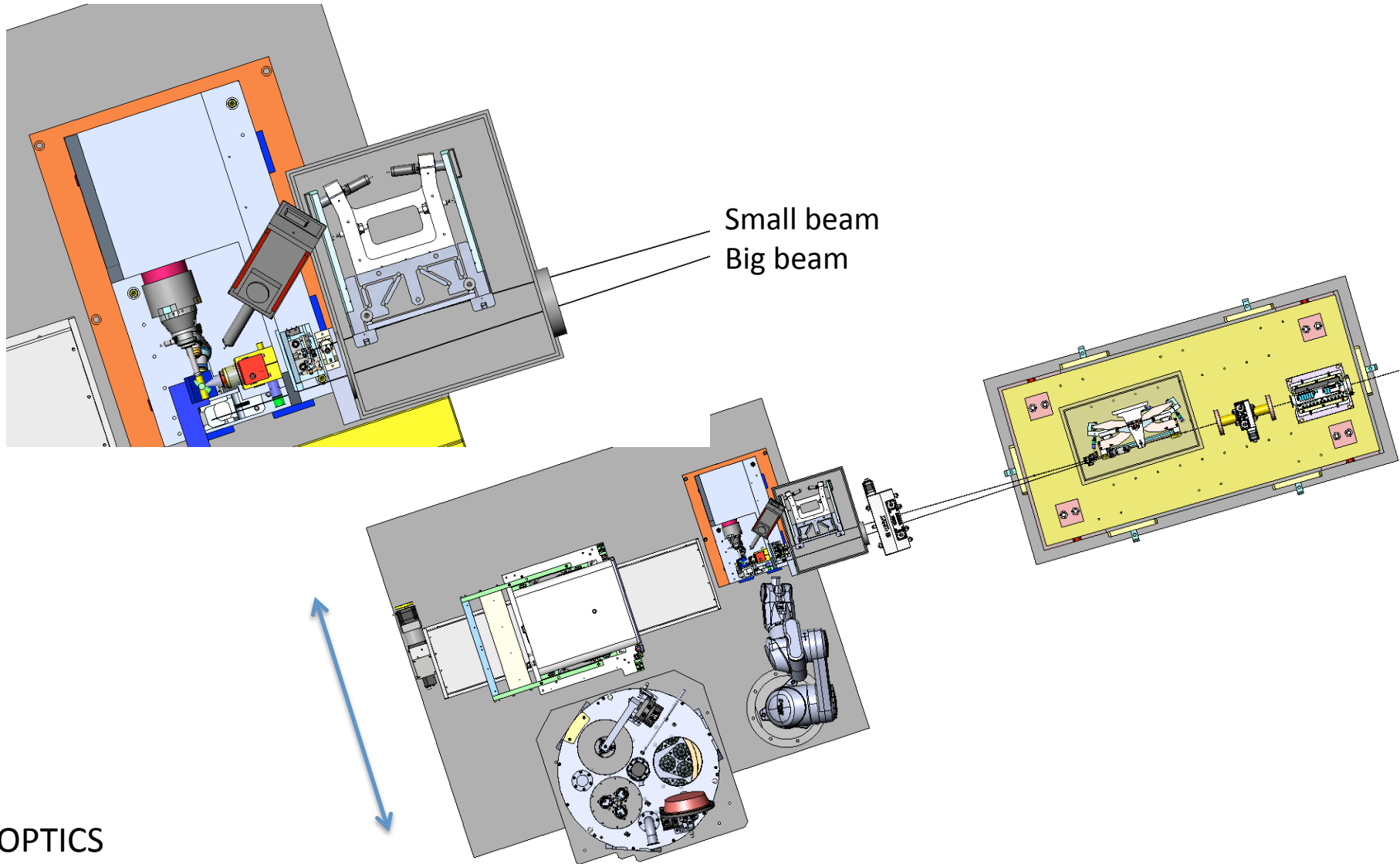
Distance from the source for OH1 components, ID23-2 branch



Beam size switching

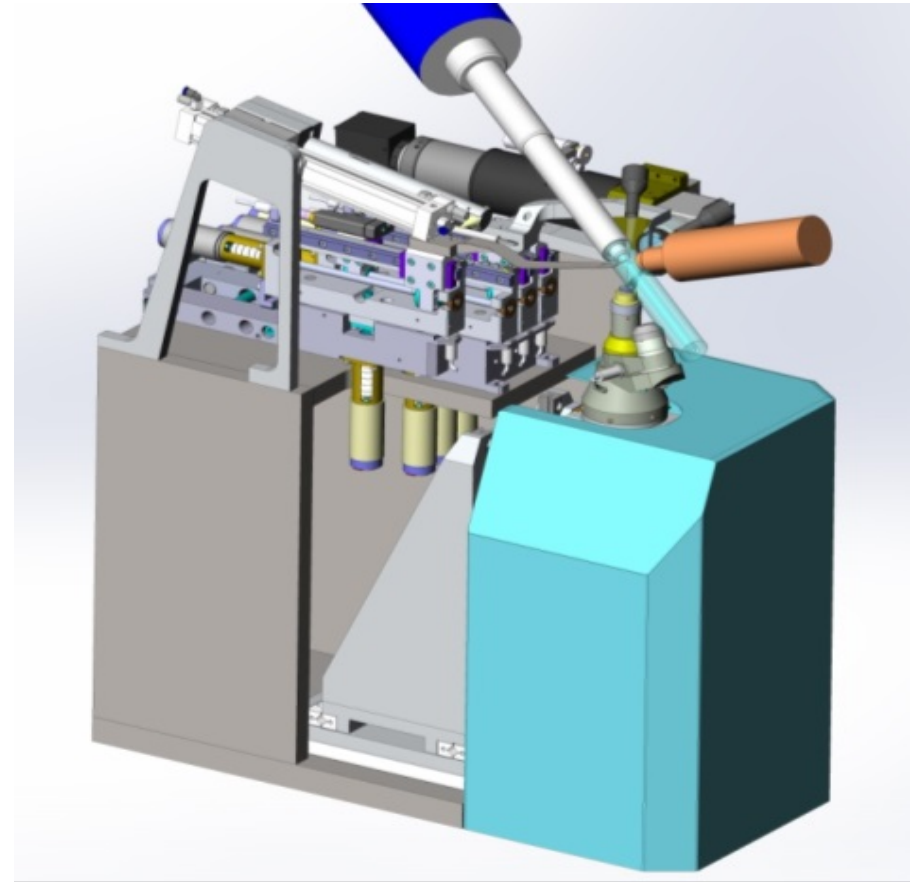


Beam size switching

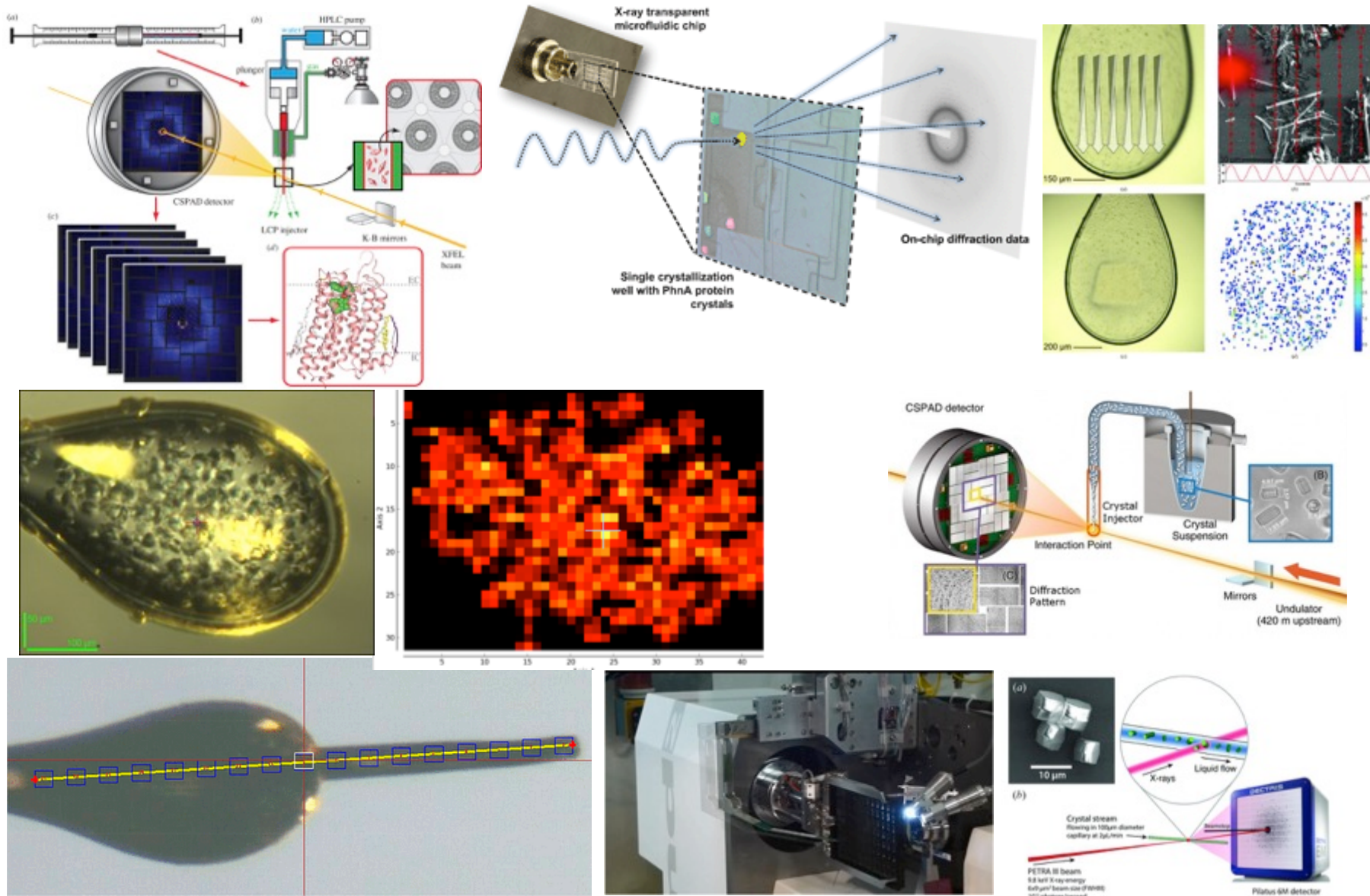


New diffractometer

- MD3
 - ESRF/EMBL collaboration
 - Vertical axis
 - FLEX SC compatible
 - Plate gripper
 - PMAC control
 - Mini Kappa
 - High precision



Evaluate Serial Delivery methods



Schedule

- TDR approved mid 2015
- Funding allocated Sept. 2015
- Engineering ongoing
- Works begin October 2016
- First users end of April 2017

