

Current status of instrument cost categories

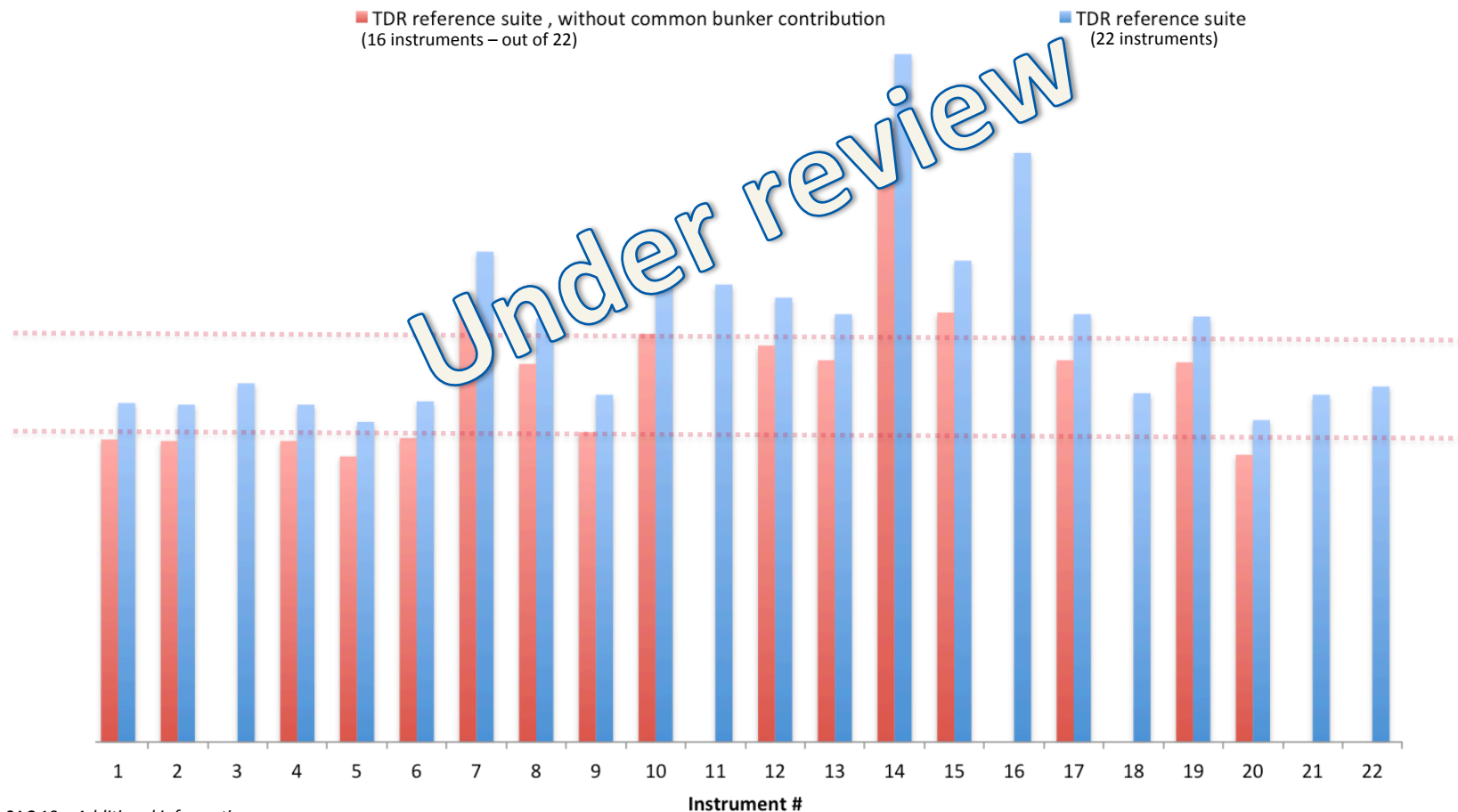
SAC 10

www.europeanspallationsource.se

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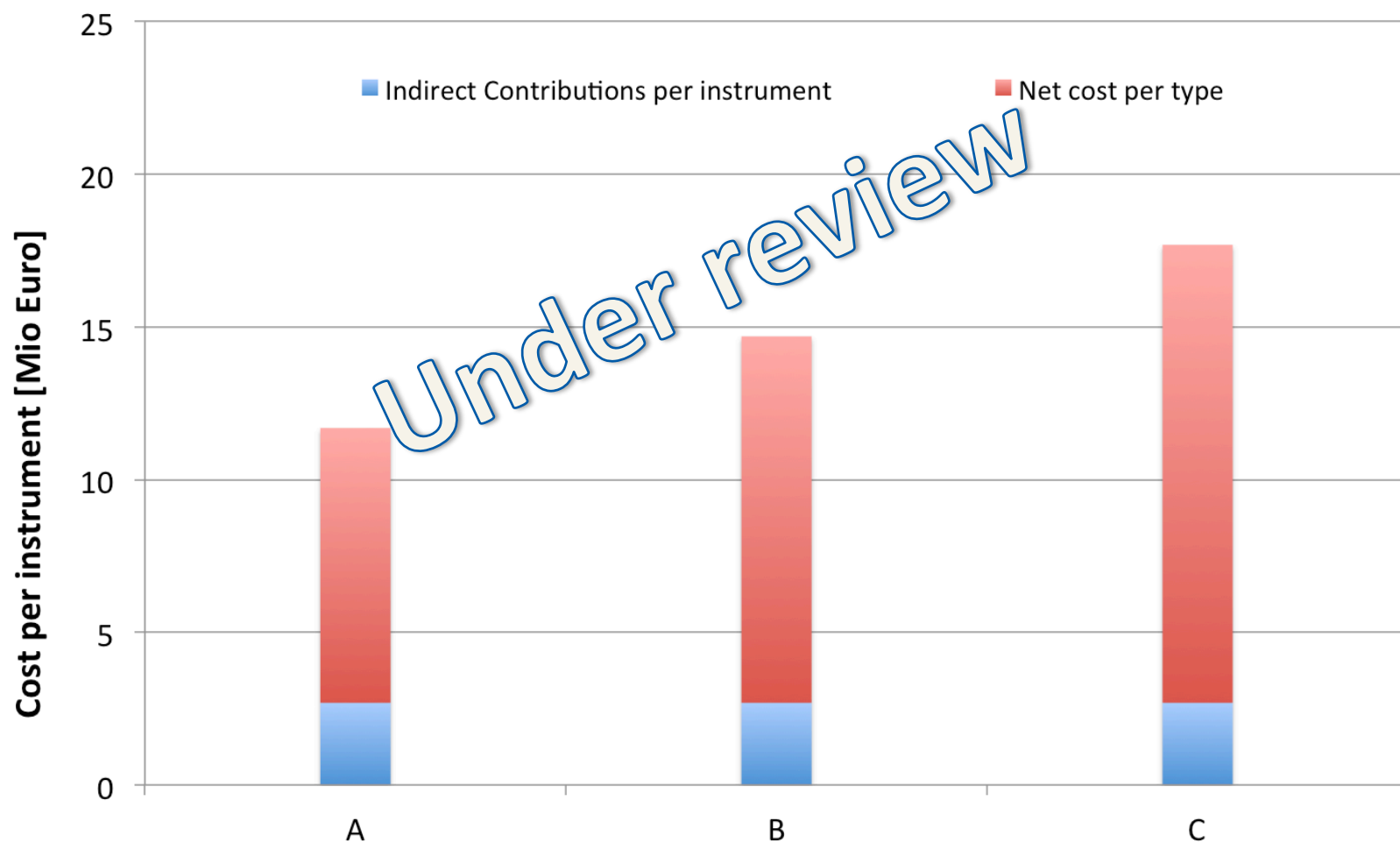
Cost categories – TDR

Input: “base cost”, instrument lengths & detector



SAC 10 – Additional information

Cost per instrument category



Cost Book - Update



Cost per average instrument

The average cost per instrument at ESS includes activities, which are due to e.g. standardisation efforts, distributed across different projects. Likewise, general development efforts required e.g. for ¹⁰B based detector technology are decoupled from the individual instrument projects, and coordinated by dedicated technical groups. Such centralised approach will reduce not only financial, schedule and technological risks to the individual instrument project, but also positively affect operations of instruments and consequently lower operational costs of ESS, which is significant considering the lifetime of the facility. It is also assumed that some of the investment for supporting technology will contribute 'indirectly' to the overall cost of an average instrument.

	Value in Mio € per instrument	In-kind potential	Project	WBS Code	Comment
Integrated Control Systems (ICS) Contributions	0.17	Yes	ICS	ICS 14.12	Hardware and programming efforts related to EPICS and Control Boxes for instruments
Instrument Project Administration & Common Systems Engineering	0.21		NSS	NSS 13.6.1	Management & Administration
Instrument Construction Preparation	0.17	Yes	NSS	NSS 13.6.2	Management & Administration
Guide Bunker & Monolith Shroud	1.25	Yes	NSS	NSS 13.6.3	Guide Bunker & Monolith shroud
Instrument Technologies Contribution (*)	0.58	Yes	NSS	NSS 13.5.1 NSS 13.5.2 NSS 13.5.3 NSS 13.5.4	Chopper Systems Neutron Optics & Shielding Electrical Engineering Detector Systems
Science Support Systems Contributions (&)	0.07	Yes	NSS	NSS 13.3.4	Sample Environment
DMSC Contributions (*)	0.24	Yes	NSS	NSS 13.4.2 NSS 13.4.3 NSS 13.4.4	Technology and Systems Operations Data Acquisition, Reduction and Management Analysis, Modeling, Simulations and <u>Visualisation</u>
SUM	2.69				
Net cost					
Type A	9.00	Yes	NSS	NSS 13.6.3 ->	Instrument Construction Resources
Type B	12.00				
Type C	15.00				
Total cost					
Type A	11.69	<u>per instrument type A/B/C, including <u>standardisation</u> activities distributed across other WP's</u>			
Type B	14.69				
Type C	17.69				

Note: Estimated 'indirect' investment

(*) 20% (&) 15%

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SAC 10 – Additional information