



Helix Nebula Science Cloud project update

Andrea Chierici

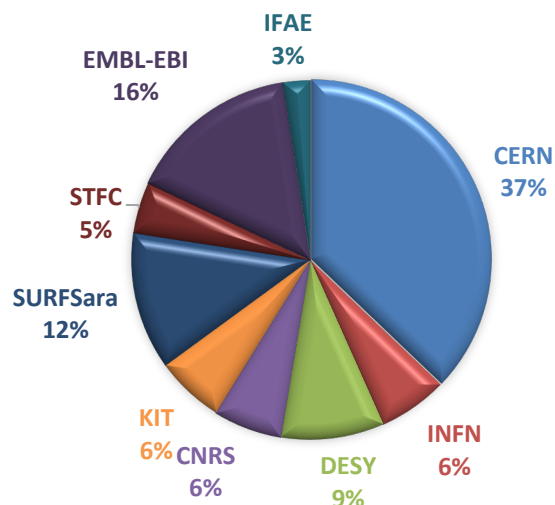
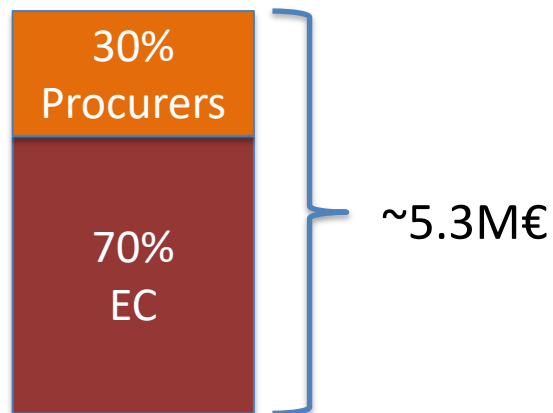
Helix Nebula Science Cloud Joint Pre-Commercial Procurement

- ✍ Procurers: CERN, CNRS, DESY, EMBL-EBI, ESRF, IFAE, INFN, KIT, STFC, SURFSara
- ✍ Experts: Trust-IT & EGI.eu

- ✍ The group of procurers have committed
 - ✍ Procurement funds
 - ✍ Manpower for testing/evaluation
 - ✍ Use-cases with applications & data
 - ✍ In-house IT resources

- ✍ Resulting services will be made available to end-users from many research communities

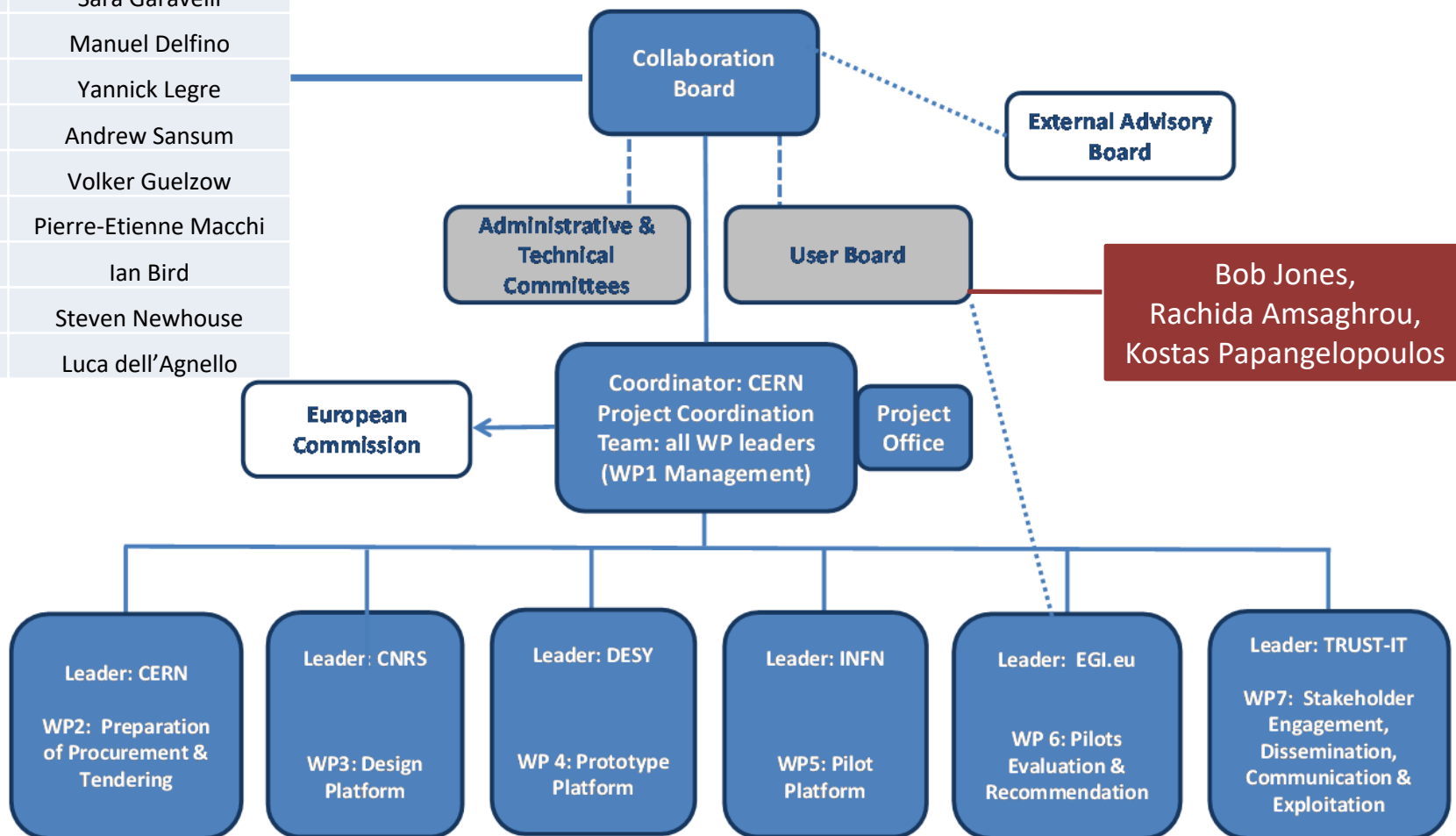
- ✍ Co-funded via H2020 Grant Agreement 687614
 - ✍ **Total procurement budget >5.3M€**



	Procurer	EC	Total €
CERN	600,000	1,400,000	2,000,000
INFN	100,000	233,333	333,333
DESY	150,000	350,000	500,000
CNRS	100,000	233,333	333,333
-	-	-	-
KIT	100,000	233,333	333,333
SURFSara	200,000	466,667	666,667
STFC	75,000	175,000	250,000
-	-	-	-
EMBL-EBI	250,000	583,333	833,333
IFAE	40,000	93,333	133,333

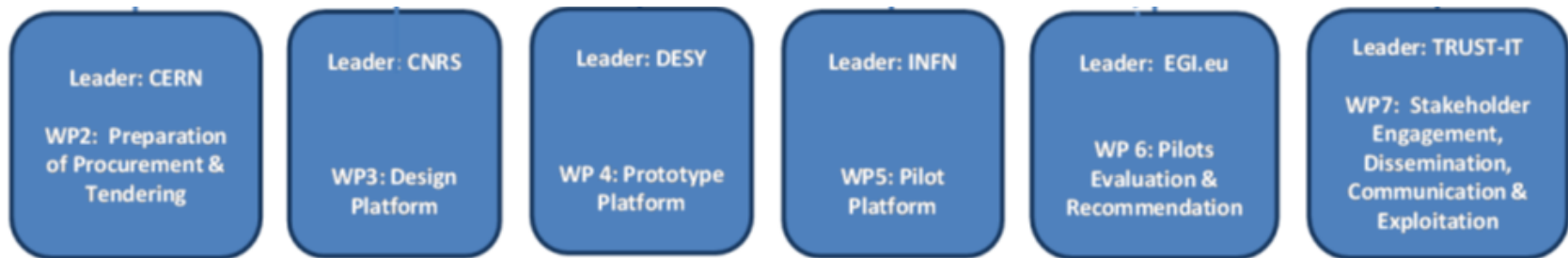
Management bodies

Partner	Representative
KIT	Andreas Heiss
SURFSara	Axel Berg
Trust-IT	Sara Garavelli
IFAE	Manuel Delfino
EGI.eu	Yannick Legre
STFC	Andrew Sansum
DESY	Volker Guelzow
CNRS	Pierre-Etienne Macchi
CERN	Ian Bird
EMBL	Steven Newhouse
INFN	Luca dell'Agnello



Project Coordination Team

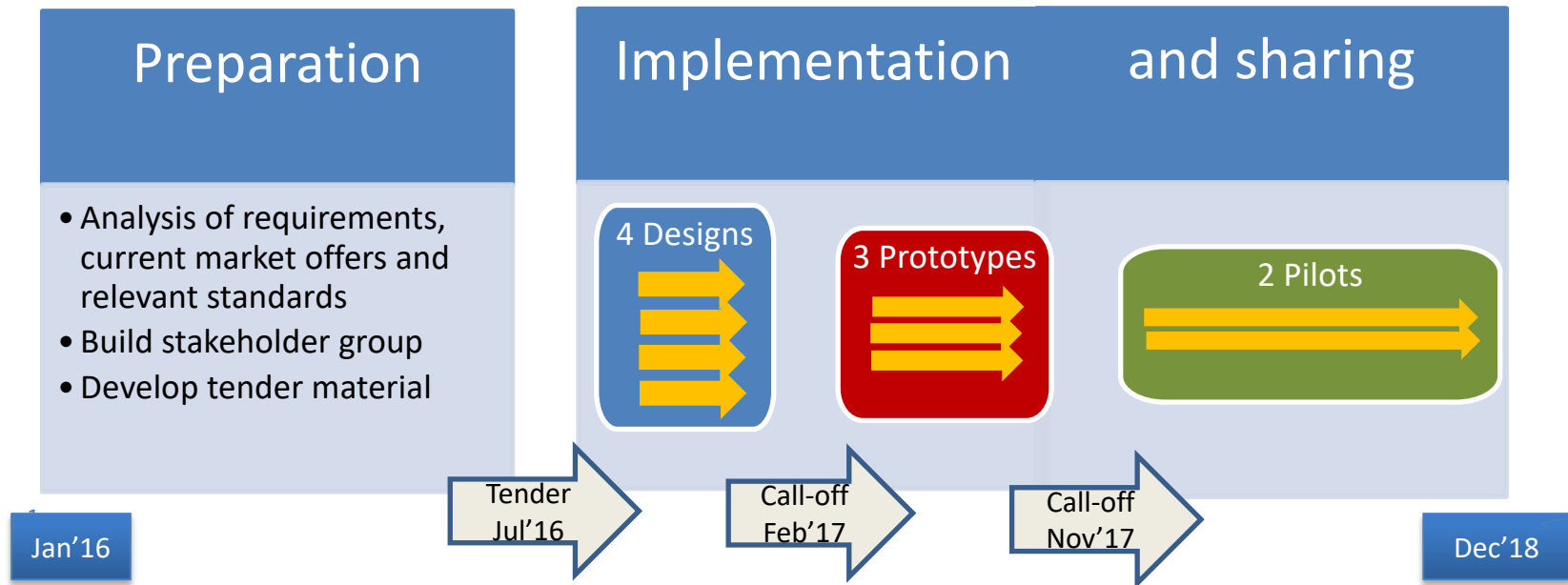
- The Project Coordination Team (PCT) is the operational engine of the project to execute strategic decisions of the CB
- The PCT is chaired by the **Project Coordinator** and composed of all **Work Package Leaders**
- The PCT will have frequent telcos and meet face to face twice per year
- The tasks of the WP leaders include
 - Manage resources to produce the deliverables
 - Assure the quality of the work and monitor milestones
 - Report to the PCT on progress and potential deviations from the work plan
 - Initiate meetings of specific working groups within their Work Packages
 - Disseminate information to the relevant consortium partners



Bob Jones

Andrea Chierici

HNSciCloud project phases



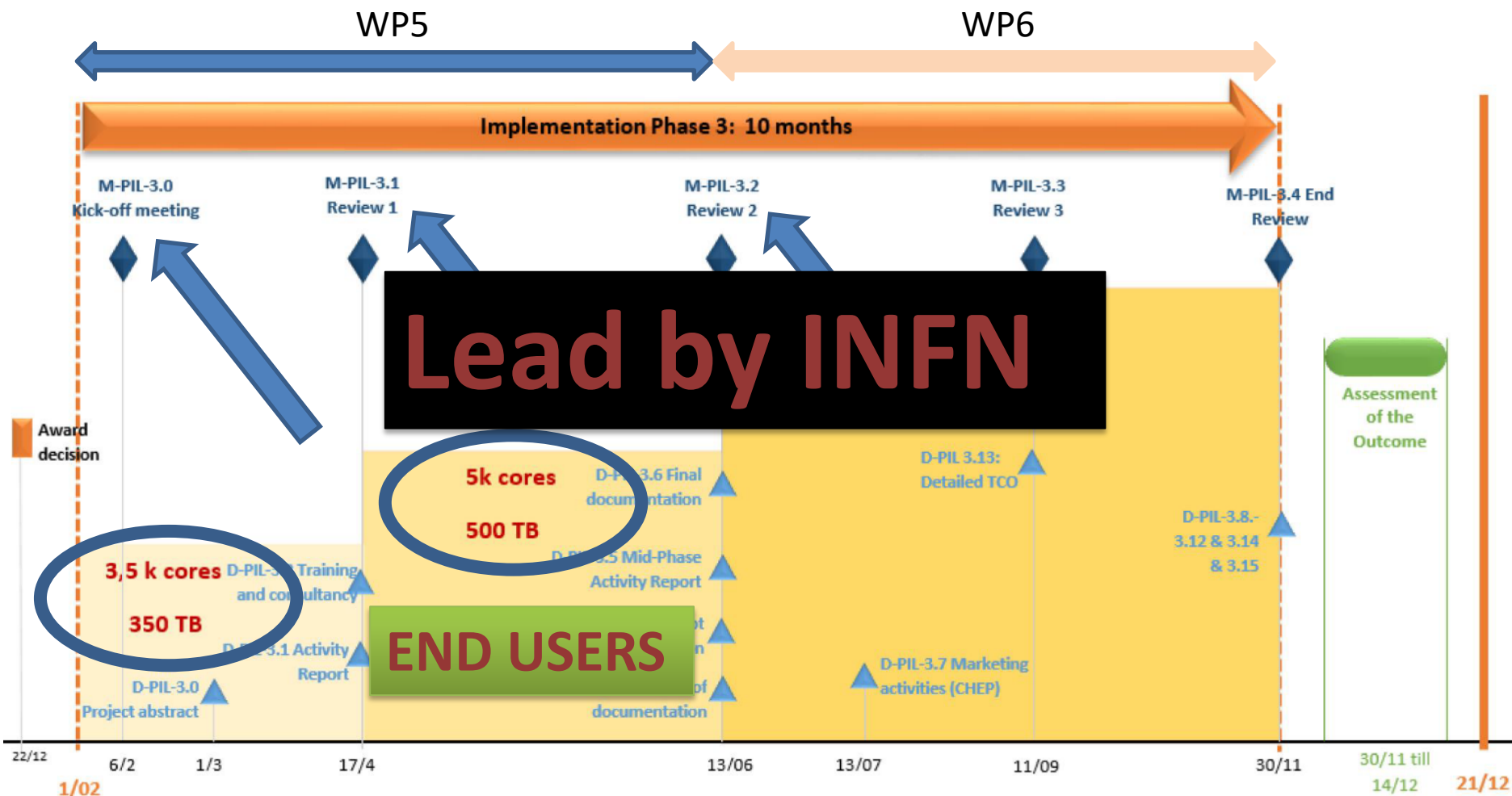
Each step is **competitive** - only contractors that successfully complete the previous step can bid in the next

Phases of the tender are defined by the Horizon 2020
Pre-Commercial Procurement financial instrument

WP5 specifications

- Scheduled for Jan-May'18
- Task 5.1 – scalability and robustness tests (3 months)
 - Extended tests performed by the IT specialists (functionality, interoperability, security, robustness)
 - The completion of these tests will signal the start of trials by end-users
- Task 5.2 – pilot assessment (2 months)
 - Assessment against the published criteria.
- Organize procurers' hosted events to broaden user base

Phase 3: Pilot Platform



Contractors

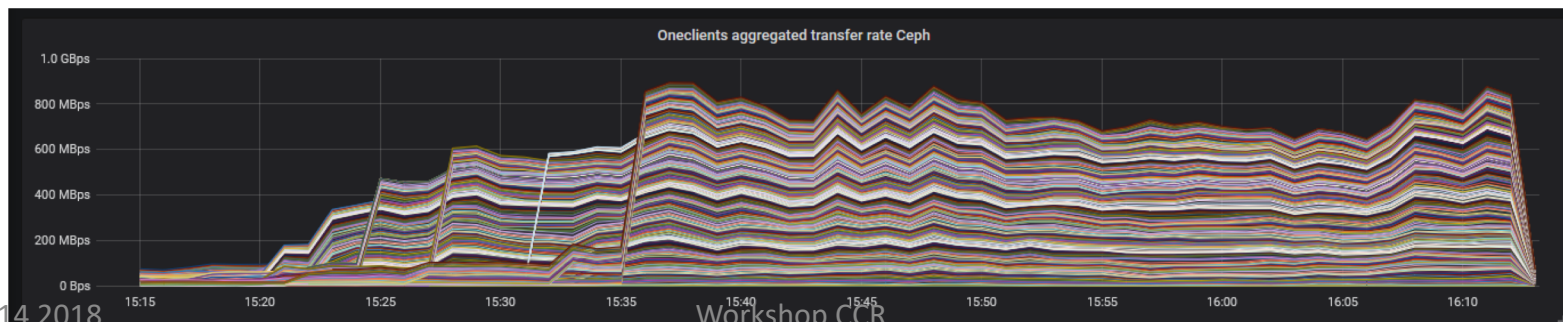
- RHEA: consortium, multi-cloud broker
 - Storage solution based on OneData
 - Cloud providers: OTC, Exoscale, Advania
- T-SYSTEMS: single entity
 - Storage solution based on OneData
 - Cloud: OTC

T-SYSTEMS: usage experience

- ☛ Openstack APIs
 - ☛ Well known by our internal users
 - ☛ no effort required
- ☛ Issues experienced in selecting flavor
 - ☛ Had more than 2 weeks stop before understanding the issue
- ☛ Quotas inconsistencies
 - ☛ #VMs vs #cores vs #disks
- ☛ Onedata setup promising
- ☛ Still logging in with user/password
- ☛ Ticketing system not optimal

Onedata tests outcome: wave 1

- 4MB/s per client, 220 concurrent clients
- Above that number instability comes out
- Looking forward to wave2 tests



RHEA: usage experience

- Multi cloud feature not tested
 - APIs not known
 - Users not happy to adapt code
 - Used OTC through std APIs
 - Exoscale tested through web interface
- Onedata setup not implemented

M-PIL-3.1 Review 1 outcome

- Accepted deliverables by 2 contractors
- Keep going with OneData
- Terminate contract with RHEA
 - Proposal not feasible
 - Reorientation on Exoscale cloud only

Quota trade: OTC example

During this phase implemented quota trades on a weekly basis.

Institute	February	March	April	May	June	Total Costs	Budget	Difference	Difference
CERN	140,53 €	44.525,82 €	29.327,05 €	57.828,42 €		73.993,40 €	250.000,00 €	176.006,60 €	70,40%
CNRS	211,43 €	5.634,74 €	180,36 €	14.954,40 €		6.026,53 €	50.000,00 €	43.973,47 €	87,95%
DESY	0,03 €	4.981,00 €	7.482,96 €	9.454,03 €		12.463,99 €	75.000,00 €	62.536,01 €	83,38%
EMBL	- €	8.527,08 €	10.453,74 €	12.021,82 €		18.980,82 €	150.000,00 €	131.019,18 €	87,35%
ESRF	- €	- €	4,36 €	32,30 €		4,36 €	25.000,00 €	24.995,64 €	99,98%
IFAE	0,06 €	0,04 €	241,02 €	2.372,21 €		241,12 €	20.000,00 €	19.758,88 €	98,79%
INFN	1.412,18 €	32.267,32 €	43.960,47 €	29.599,84 €		77.639,97 €	50.000,00 €	- 27.639,97 €	-55,28%
KIT	22,52 €	1.179,43 €	13.941,52 €	24.423,62 €		15.143,47 €	50.000,00 €	34.856,53 €	69,71%
SURFsara	- €	101,25 €	76,33 €	97,82 €		177,58 €	100.000,00 €	99.822,42 €	99,82%
STFC	- €	- €	- €	- €		- €	37.500,00 €	37.500,00 €	100,00%
Total Costs	1.786,75 €	97.216,68 €	105.667,81 €	150.784,46 €	- €	204.671,24 €	807.500,00 €	602.828,76 €	74,65%

HNSciCloud procurer hosted events

- 17-18 April, **ESRF**, Grenoble, France
- 4-7 June, **EMBL**, Berlin, Germany, co-located with the ELIXIR All hands meeting
- 13-14 June **CERN**, Geneva, Switzerland
- 27-31 August, **KIT**, Karlsruhe, Germany, co-located with the GridKa School 2018
- 11 September, **SURFsara**, Amsterdam, The Netherlands
- 8-12 October, **IFAE**, Barcelona, Spain, co-located with the HEPIX meeting
- 24 October, **DESY**, Hamburg, Germany
- 28-30 November, **CERN**, Geneva, Switzerland

Important R&D activities

• TCO

- 2 use cases selected: PanCancer (EMBL) and Alice

• Vouchers

- 10 vouchers 250€ each to be given to end-users

• GDPR compliance

- Contractors working on providing an acceptable privacy policy

Questions?

