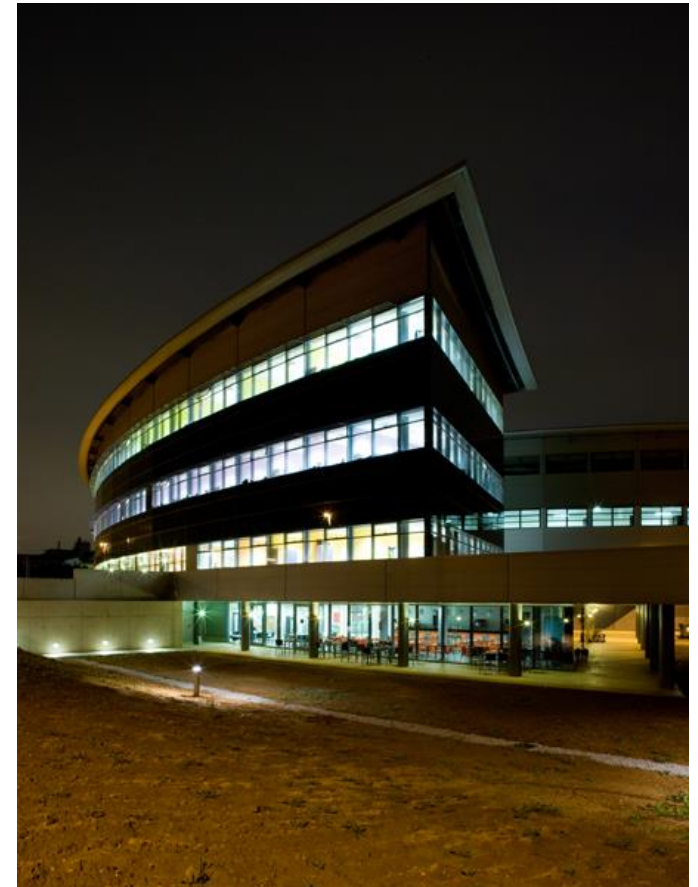


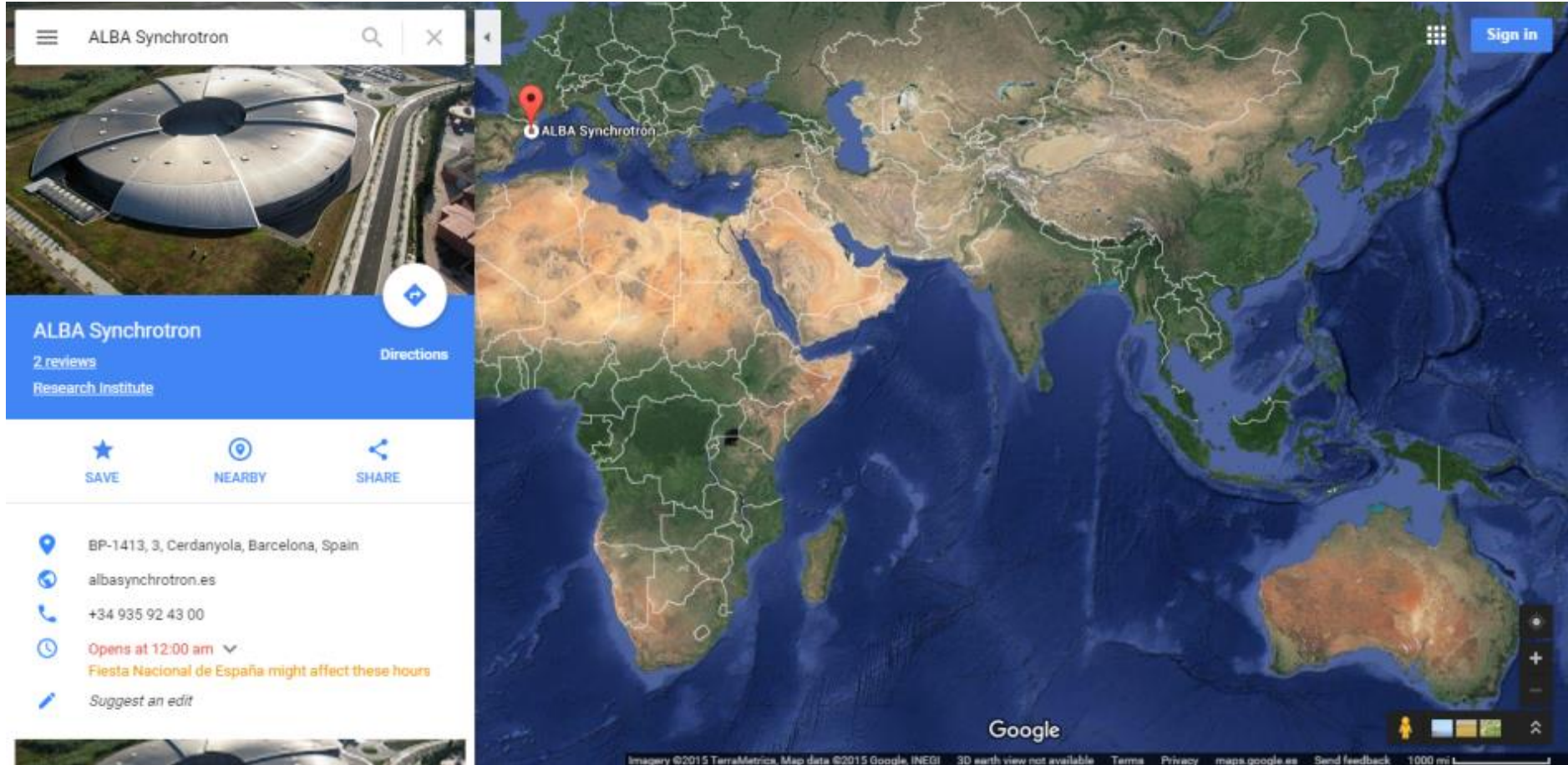
Introducing the Scrum Framework as part of the Development Strategy for the Alba Control System

Guifré Cuní, Fulvio Becheri,
David Fernández-Carreiras,
Zbigniew Reszela,
Sergi Rubio-Manrique
(Alba Synchrotron, Spain)

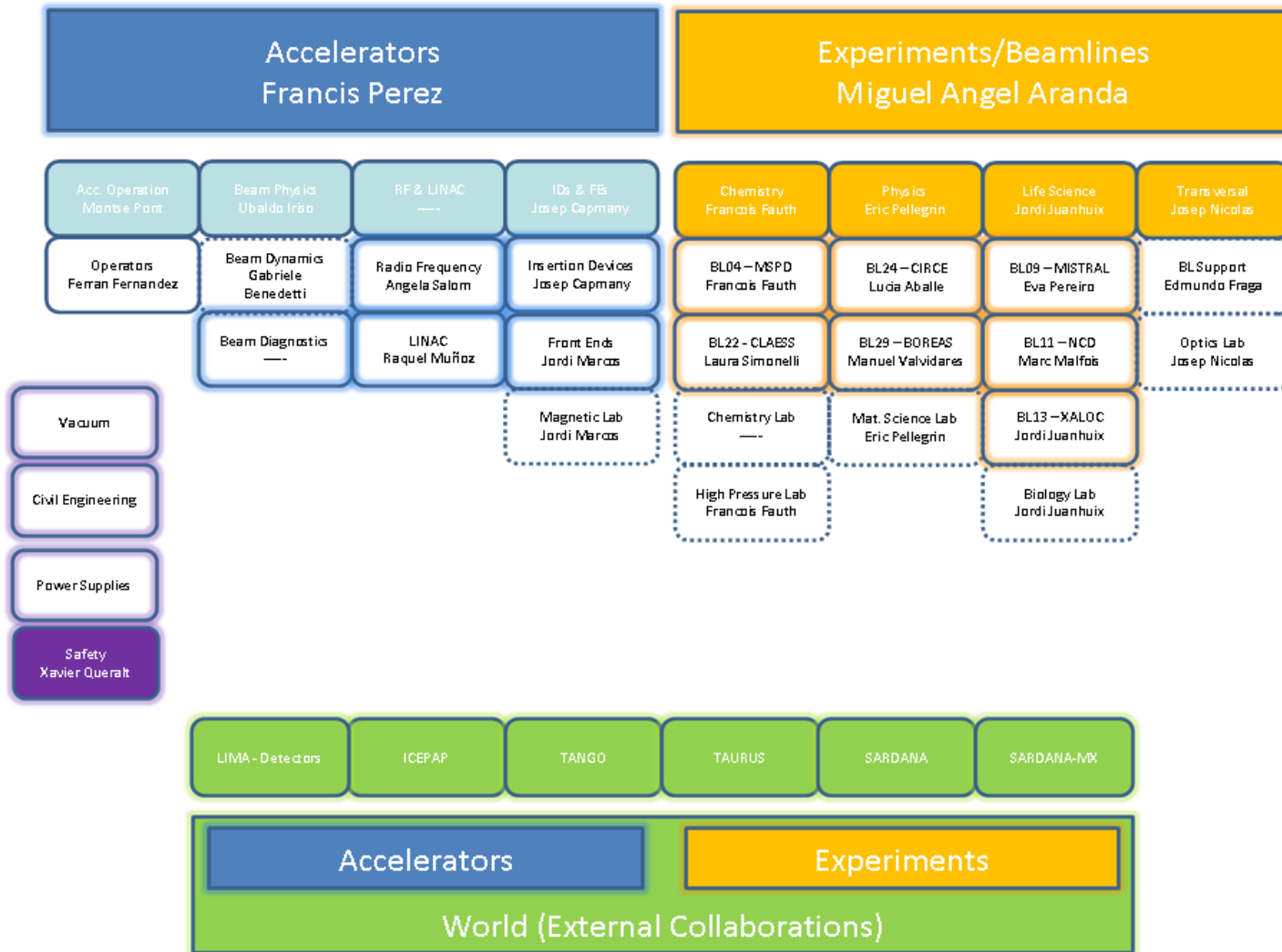




3rd gen. Synchrotron Light Facility Located in Spain



Commissioned 2012, 7BLs, phase-II (2 construction)

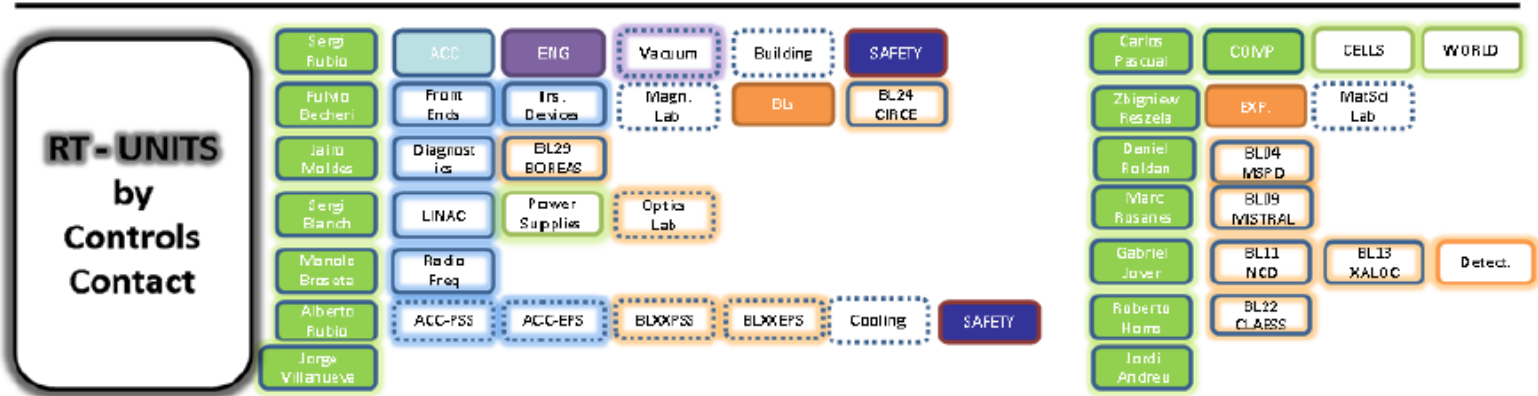
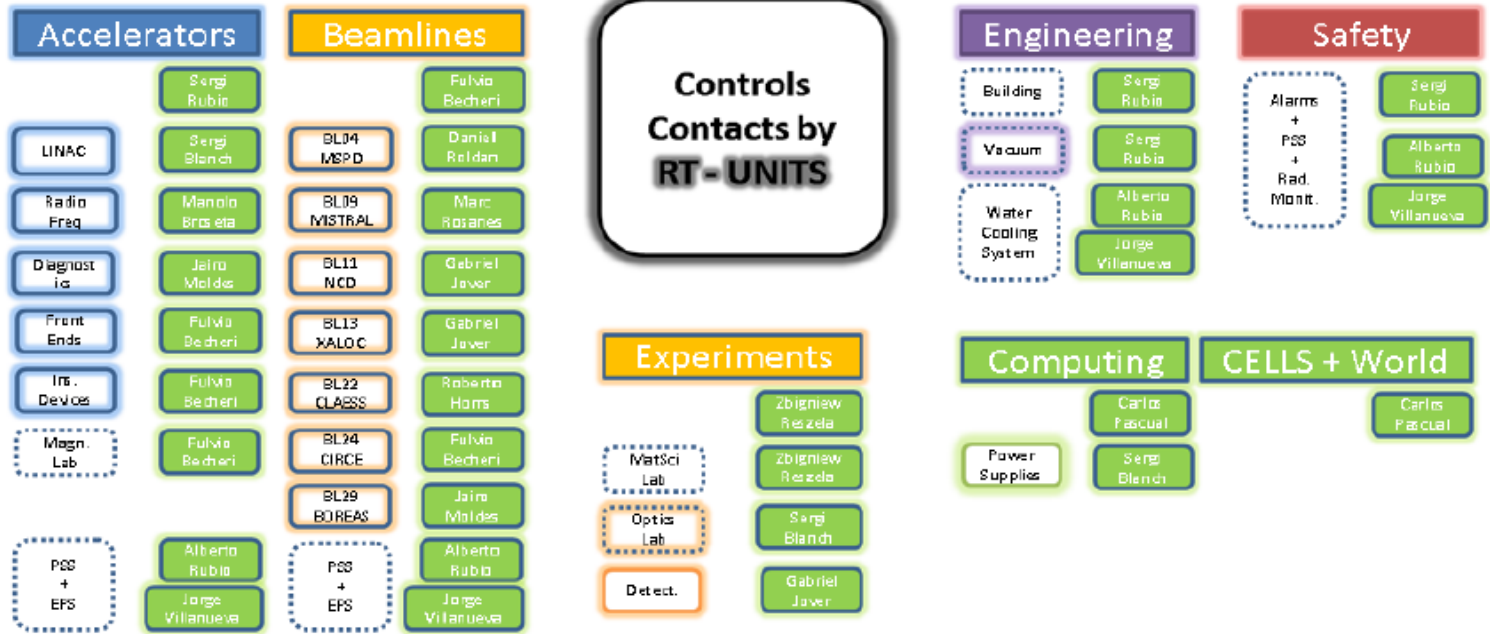


SW development during Construction and Installation

- Controls group size progressively growing (up to 16 people)
- Projects for accelerators, beamlines and labs
- Projects for transversal subsystems
- Wide range of disciplines
- Common tools, and technologies
- Internal libraries and frameworks
- International Collaborations
- Single-developer projects
- Single support group showed important competitive advantages
- Fit activities based on critical path of the whole installation

SW development during Early Operation

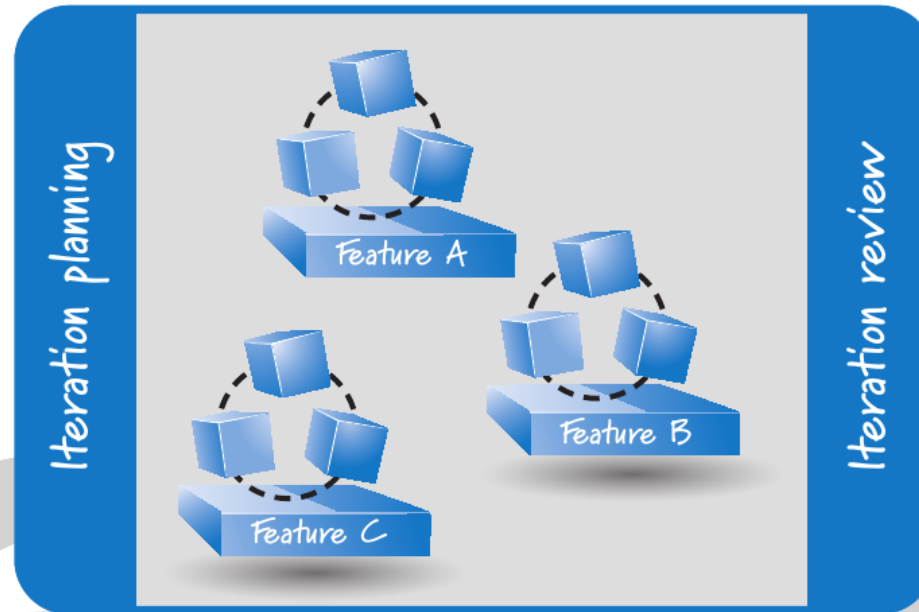
- Appears service demand
 - RT system with service, unit, priority
- Maintenance days and shutdown
 - Deploy and commission activities in very restrictive time slots
 - Associated tasks gain priority over new developments
- Bugs and defects, new requests, changes
 - Each developer becomes Service Owner
 - Deep knowledge can not be spread



- Single developer approach:
 - bottlenecks
 - conflict of priorities (stress)
 - Stuck in his/her own projects
- What if a developer leaves?
- Newcomer learning curve
- 24/7 support requires transfer of knowledge
- Regular meetings to share new functionalities
- Team knows highlights but not insights
- Brainstorming sessions

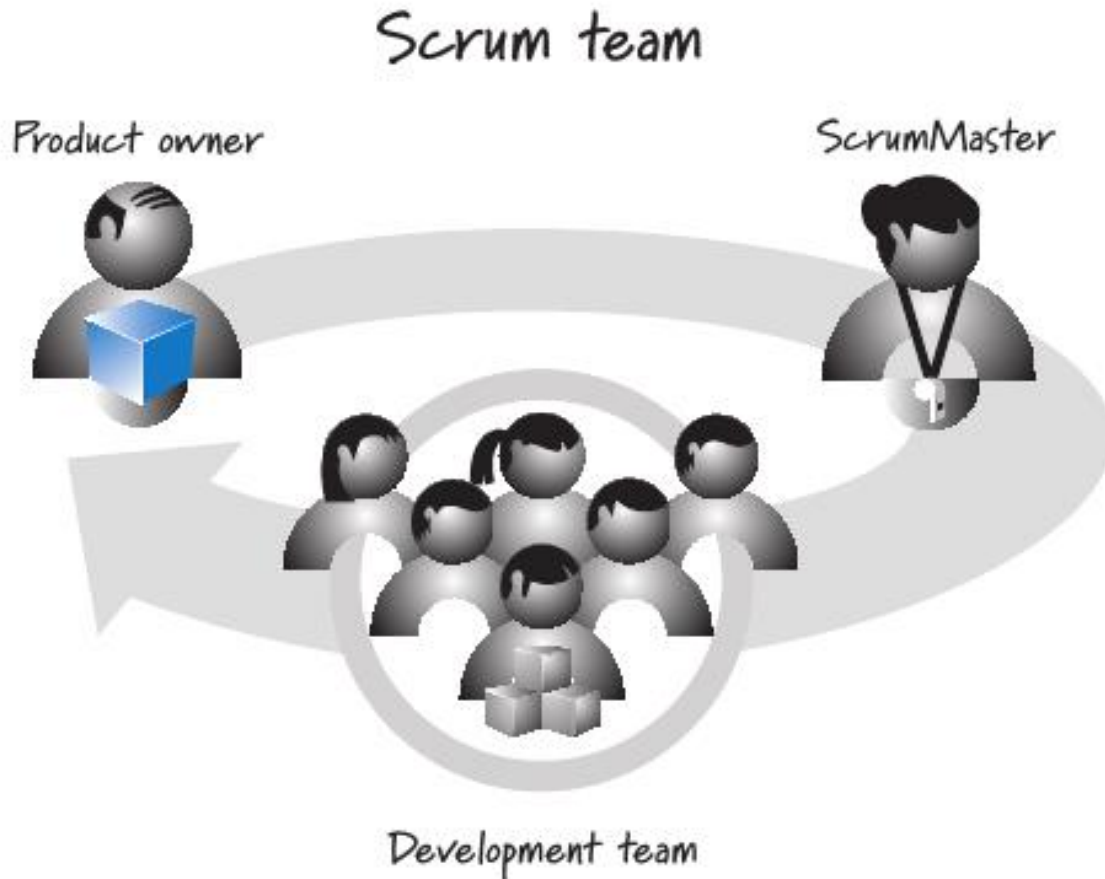


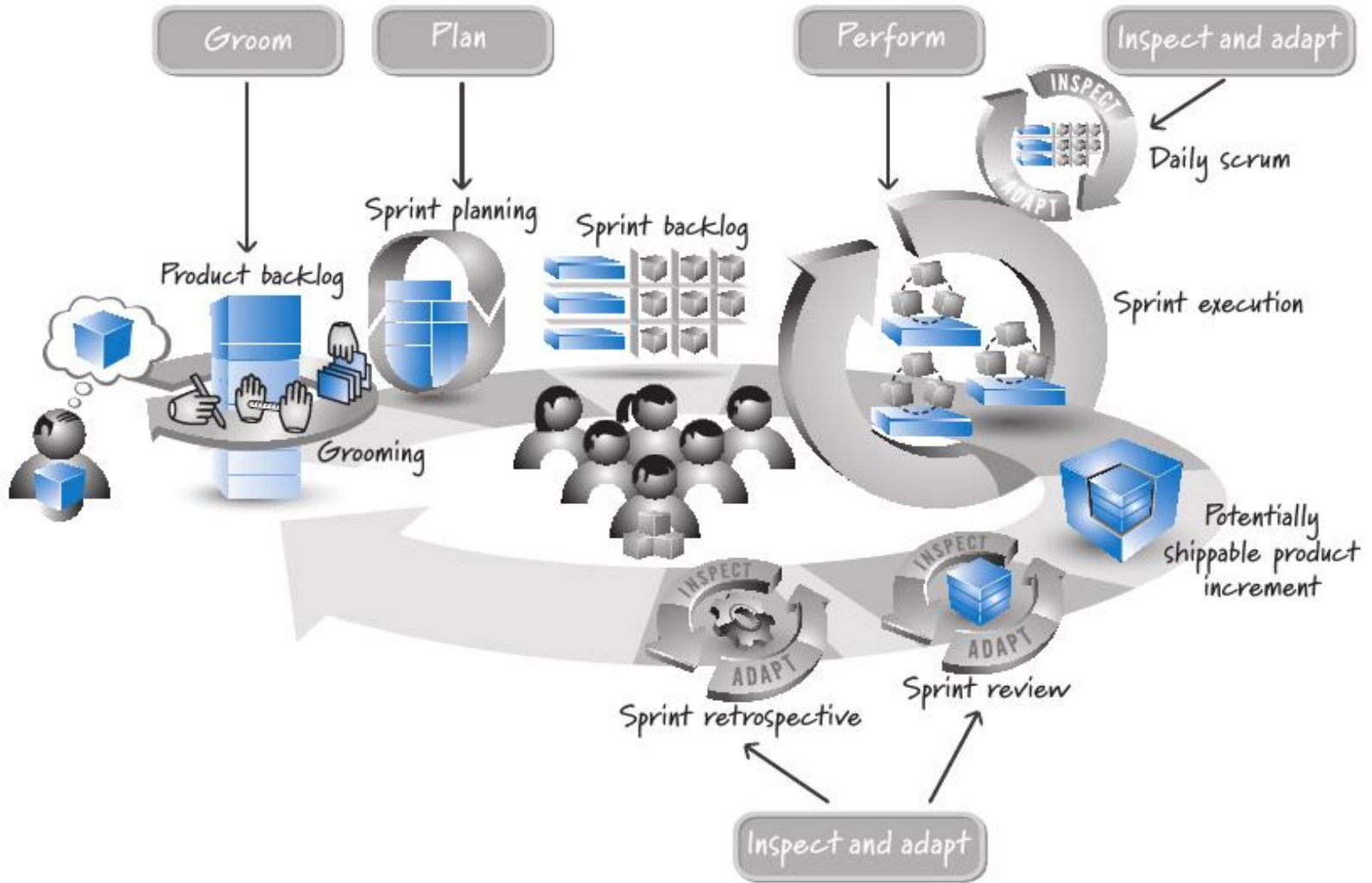
Product backlog



Iteration (1 week to 1 calendar month)

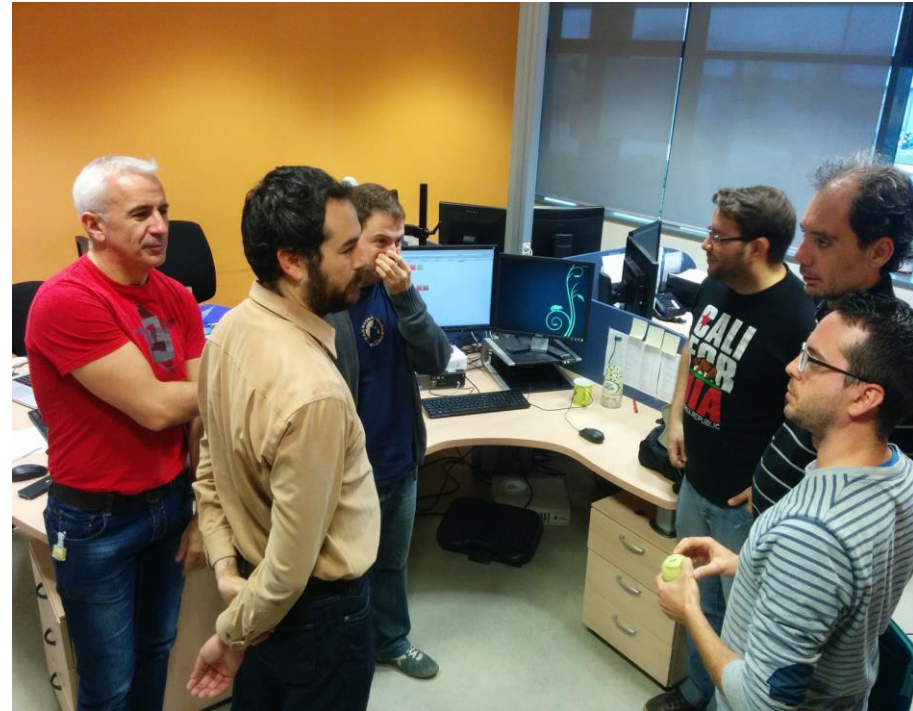
Images from: “Essential Scrum” by Kenneth S. Rubin





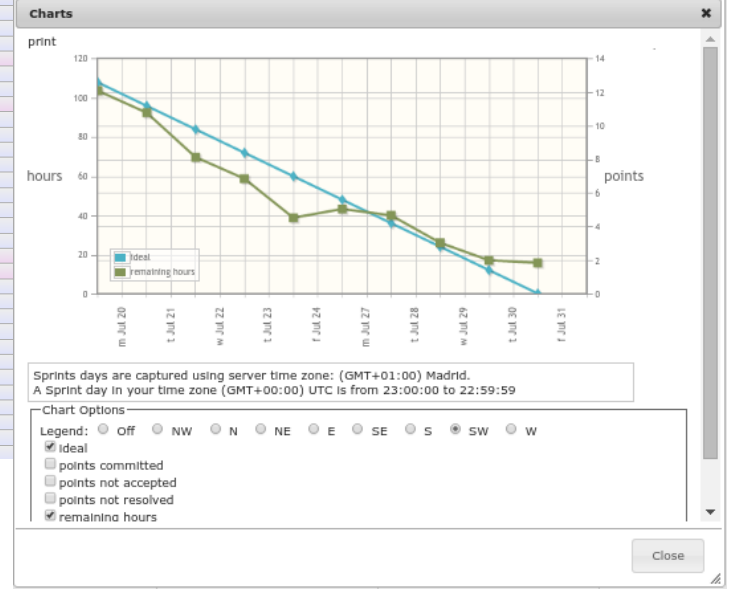
- End 2013: Three individual projects required internal boost
- Begin 2014: Exercise to evaluate if Scrum would help in organization, execution and coordination activities
- Benefits detected:
 - enforced communication
 - implicit collaboration tasks
 - Teams' discussions lead to better designs
 - Incremental and iterative approach mitigated the cost of change
- Some recommendations:
 - Team size of 4-6 members
 - Two-week sprint length seems good choice
 - 60% in development, 40% in support

- Incrementally change the group organization
- Scrum Master and Product Owner roles assigned first:
 sharing common vision
- Customers informed about the change
- Mid-2014 beamline controls
- Few sprints later, generic software developments
- End-2014 transversal protection systems
- Beginning-2015 accelerator developments



Sprint	Start	End	Count
Sprint33	2015-08-31	2015-09-13	8
5126	CT Beam Floor Coordinator's Training	Resolved	2.0
5003	BL11-NC EPW-24-23 Crystallographic Data Detector Table Integration	Resolved	2.0
5043	BL13-XAI Add window calibration for Collar pseudomotor	Resolved	2.0
5127	BL24-CF PCD test new release	New	2.0
5007	CT Beam Scrum Coordination	New	
Sprint34	2015-09-20	2015-10-04	4
5343	BL11-NC ImxPad test preparation	New	2.0
5203	BL13-XAI Getting Falcon images through events	New	2.0
5326	CT Beam Scrum Coordination	New	
Sprint1	2014-05-19	2014-06-02	
4700	BL22-CU Implement the Hybrion Configuration	Resolved	4.0
4921	BL04-MS Implement monitor counting per position in Hybrion experiments	Resolved	4.0
3043	BL22-CU Implement the first experiment (step continuous scanning mode)	Resolved	4.0
4751	CT Beam SP3-Scrum Coordination	New	
Sprint2	2014-06-02	2014-06-13	
4881	BL22-CU Emv-002 in the Lab with Temp0	Resolved	4.0
4888	BL22-CU ImxPad Temp0 air machine control-002000	Resolved	4.0
4887	BL22-CU ImxPad Temp0 in-002000	Resolved	4.0
4877	BL11-NC P000-0000	Resolved	1.0
4882	CT Beam SP3-Scrum Coordination	Resolved	
Sprint3	2014-06-16	2014-06-27	
4735	BL11-NC SAKS and WAXS experimental channel	New	4.0
5024	BL24-CF Beam-0000	Closed	4.0
3025	BL24-CF FEER-PCD workload	New	4.0
3070	CT Beam SP3-Scrum Coordination	New	
Sprint4	2014-06-30	2014-07-11	
3127	BL11-NC SAKS and WAXS experimental channel	Resolved	2.0
5019	BL22-CU Prepare the Amptek 0-0000 for the commissioning	Resolved	2.0
3020	BL22-CU adjust in fluorescent mode	Resolved	1.0
3108	BL24-CF FEER: 0000 and 0000 solve preview	Resolved	2.0
3183	BL04-MS Beam optics 00 - Windows	Resolved	2.0
5273	CT Beam SP3-Scrum Coordination	Resolved	
Sprint5	2014-07-11	2014-07-25	
3144	BL04-MS Ocean Optics DS - Source Code	New	1.0
3144	BL13-XAI Beam-Gain-0000	Resolved	2.0
4337	BL04-MS Property postlog for 0000-0000	Resolved	1.0
4331	BL04-MS Heat-tower (0000-0000) temperature in-degrees output in Hz	Resolved	2.0
4338	BL04-MS Eureshom3000-0000-0000-velocity-parameter	Resolved	2.0
3131	BL24-CF NAFF: integration of EH readings and Energy readings in the experiment	Blocked	2.0
3340	BL11-NC SAKS and WAXS experimental channel	New	1.0
3067	BL22-CU Integrate the 0000 in the beamline control system	Resolved	2.0
5348	CT Beam SP3-Scrum Coordination	New	
sprint6	2014-07-28	2014-08-11	
5483	BL22-CU Load mythen configuration from a file	New	2.0
5023	BL13-XAI Raster scan macro	Closed	2.0
4925	BL04-MS Eliminate an erroneous first point in N500X counters in latching mode	New	4.0
5022	BL13-XAI Lima Basler Color camera	New	4.0
5485	CT Beam Sprint6 coordination	New	
sprint7	2014-08-11	2014-08-22	
5020	BL13-XAI Raster scan macro	Resolved	2.0
5482	BL13-XAI Raster scan	Resolved	4.0
5484	BL04-MS Implement F00 attributes in eureshom-00	Resolved	2.0
5459	BL24-CF Workaround for Energy pseudomotor at the 00	Resolved	2.0
5021	CT Beam Scrum Coordination	Resolved	
sprint8	2014-08-25	2014-09-07	
5021	BL22-CU Include in the AmptekGUT the HW SCA configuration	New	4.0
4524	BL04-MS Separate madmom data into a dedicated Scientific	Resolved	1.0

Story	New	Assigned	Work in progress	Blocked	Test Pending	Test Failure	Resolved	Closed	Rejected
0 Sprint Improvements									
001 (10 hours) 0000									
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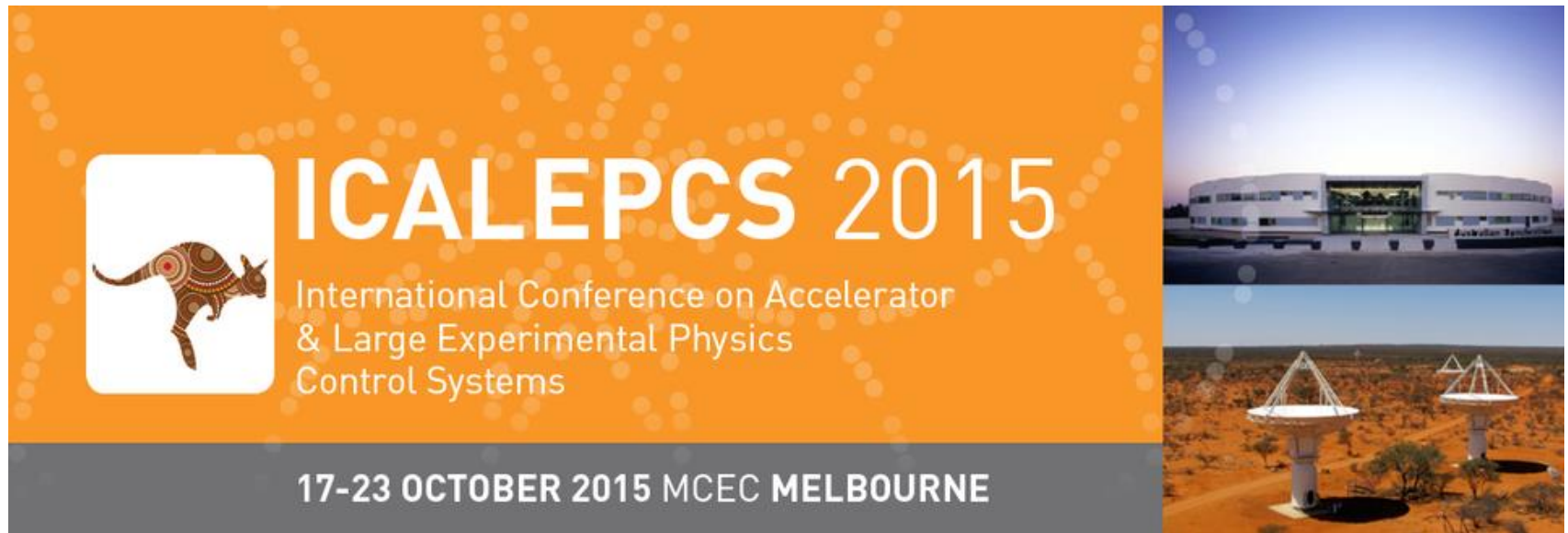
- Focus on “Given Value” helps focus
 - Review items with P.O. as soon as ready
- Great opportunity to talk about our internal use of Scrum
 - Daily meetings are useful
 - Software development skills and tools
- Keep track of the products’ increments
 - Based in short-term milestones
 - All the team gets updated (knowledge)


- SM Training
- Resistance to change
- Grooming
- Definition of Done discussions
- Planning (say no)
- Technical Debt
- Team Building
- Individual projects (prototypes/research)

- Explore:
 - ScrumBan and KanBan
 - Serialize Epic Stories
 - Communities of practice

Still in transformation phase, and happy with the results

Thank you!



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