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)
Introducing the Scrum Framework… (MOD3004)

ICALEPCS2015 - Melbourne

October 19th, 2015

3rd gen. Synchrotron Light Facility Located in Spain

Commissioned 2012, 7BLs, phase-II (2 construction)
Introducing the Scrum Framework... (MOD3O04)

ICALEPCS2015 - Melbourne

October 19th, 2015

Controls Developments

Accelerators
Francis Perez

Experiments/Beamlines
Miguel Angel Aranda

Vacuum
Civil Engineering
Power Supplies
Safety

Accelerators

Experiments
World (External Collaborations)
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
Introducing the Scrum Framework... (MOD3004)

ICALEPCS2015 - Melbourne
October 19th, 2015
Spreading the knowledge

- 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
Introducing the Scrum Framework… (MOD3O04)
Introducing the Scrum Framework…

Images from: “Essential Scrum” by Kenneth S. Rubin
Introducing the Scrum Framework…

The Scrum Team

Product owner

Scrum team

Development team

ScrumMaster
The Scrum Events & Artifacts

Introducing the Scrum Framework...

ICALEPCS2015 - Melbourne

October 19th, 2015
Embracing Scrum

• End 2013: Three individual projects required internal boost
• Begin 2014: Exercice 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
Creating the Scrum Teams

• 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
Introducing the Scrum Framework...

ICALEPCS2015 - Melbourne

October 19th, 2015
Reviews and Retrospectives

• 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)
Conclusions

• 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!