

# Maintaining the instrument - platform

Peter Paglovec, 9.6.2016





### Maintenance:

All actions which have the objective of retaining or restoring an item in or to a state in which it can perform its required function.





# Platform by Merriam Webster:

A usually raised structure that has a flat surface where people or machines do work.





## Platform by Techopedia:

A platform is a group of technologies that are used as a base upon which other applications, processes or technologies are developed.





## Instrumentation Technologies' platforms (1)



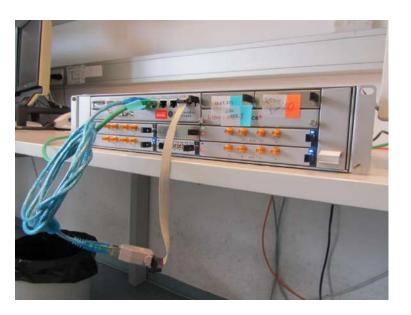






# Instrumentation Technologies' platforms (2)









## Instrumentation Technologies' platforms (3)



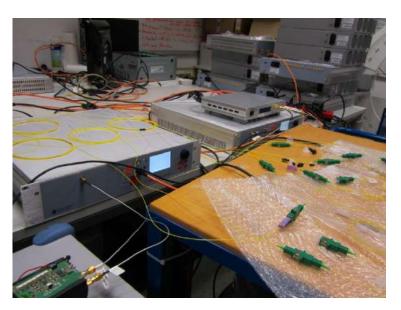






## Instrumentation Technologies' platforms (4)









 Platform A instruments: ~2400 (~ 2000 Libera Electron/Brilliance, ~ 90 Libera Photon,...)





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- Platform C instruments: ~110
- Temperature stabilized platform: ~50





## Weight:

Platform A instruments: 4.5kg

Platform B instruments: 13kg

Platform C instruments: 1.1kg

Temperature stabilized platform: 15kg





## Power consumption:

Platform A instruments: ~35W

Platform B instruments: ~200W

Platform C instruments: ~7W

Temperature stabilized platform: ~200W









Quality of the products containing multiple technologies.





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- Hardware:
  - New product development
  - Products series production reliability, reproducibility, components' obsolescence
  - On-site product maintenance (improvements, repairs, ...)
  - In-house product repairs





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#### Hardware:

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#### Software releases:

- New applications
- New customer release
- Bugfix release
- New functionalities
- Software upgrades due to hardware changes





## How we do it?



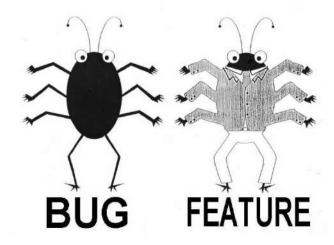
- Technical support activities:
  - Close relation
- On-site work:
  - Installations
  - Upgrades
- Quality control:
  - Manufacturing testing
  - Final testing
  - Software testing







## How we do it on software?



Number of software releases:

Platform A: 62

Platform B: 25

Platform C: 9

#### Importance of:

- quality of requirements and implementation
- regression testing





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- Lately more software than hardware maintenance activities
- Importance of good communication
- Continuous support







## Thank you!

