

Turnkey Software Solutions

Software R&D Lighting Talk Session

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The Problem

Plenty of software R&D ideas around

- Improved reconstruction, fast simulation with ML, heterogeneous scheduling, ...

All these efforts need to have an environment to be developed and tested in

LHC experiment setups way too big and full of ad-hoc solutions

- Not a good place for agile R&D!
- Nor for looking at test-beam and detector data

Thus projects come up with ad-hoc solutions and new mini-frameworks

- Costs time and propes developers' patience
- Software cannot be easily adopted by possible users

The Idea

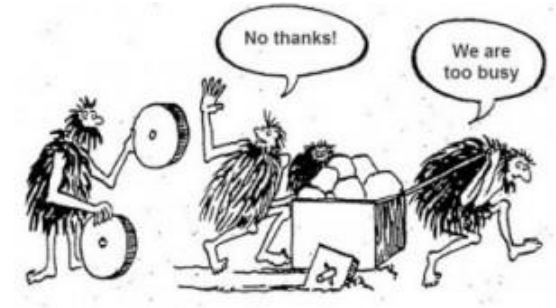
We really re-invent the square wheel too many times!

We should make the life of developers easier by

- properly supporting software development and running environments
- Helping with easy adoption of results by others
- Having a solution that does not require retraining for every project

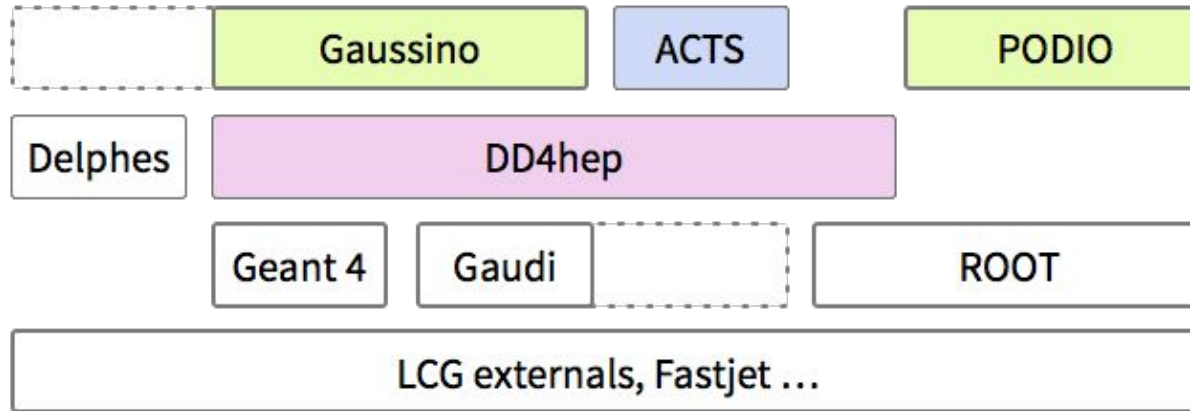
Two projects in EP which come closer to what is needed

- CLIC and FCC developer study software tried to stay away from LHC complexity



Have to evolve situation into a batteries-included setup for everybody!

Use existing building blocks



Take existing solutions that are experiment independent
(from LHCb, ATLAS, CMS, FCC and CLIC)
and provide it as a consistent software environment

⇒ Provide a Gaudi based turn-key system to support software R&D

This allows independent testing, yet pushing improvements upstream
to experiments