

# Evolution of the critical workloads in Run3 and HL-LHC

# Questions to frame our discussion

- What parts of the critical workflows will change for Run3 (in ~3 years) and Run 4 (in ~9 years)?
- How can we “fake” in a more realistic way these conditions until we have the code that handles data for these periods?
- Will there be an impact of the change of global architecture and what will it be, how can we quantify it?

# LHC evolution

- Detector upgrades
  - Mostly known already. Prototype code generally exists. Timescales for this code to be reliable for resource extrapolations?
- More, and more complex events
- Blurring the lines of online vs offline workflows

# Technical evolution – themes from this week

- Evolution towards many core
  - Ideas for how metrics evolve?
- Evolution towards small data formats
  - Ideas for tradeoff studies?
- Evolution towards efficiently using heterogeneous resources
  - Ideas for defining example application models?

# Technical evolution – themes from this week

- Completely new algorithmic techniques? [eg, idea of the day: deep learning]
  - Different application memory model/footprint?
  - Need for “Training facilities”?
- Completely new analysis techniques/tools?
  - Ideas for modeling an “analysis facility”?