

# 7th PataTrack Hackathon

Team: Multiple Architectures

## Objectives:

Running CMS-Patatrack on multiple architectures. (CUDA, HIP(AMD), X86, ARM, IBM )

- Evaluating different ways (ALPAKA, KOKKOS, QT) on a standalone code (...)
  - Ease of management
  - Integration with CMSSW
  - Performance differences and checks.
- PataTrack Code conversion and performance checks.
- Pull request New Branch for moving the existing code.
- Adding guidelines in README / PataTrack Wiki

## Hackathon: Day:1

- Access to the Machines
- Setting up CMSSW and Patatrack development branch with validation and tests
- Setting up Alpaka/Cupla/Kokkos/QT
- Trying out on standalone code - <https://github.com/makortel/pixel-standalone>
- Tests within CMSSW+Patatrack

## Day:2

- Tried different examples with Alpaka/Cupla/Kokkos/QT and trying to understand further.
  - Ran the test code on different machines
    - Tests on AMD Readon7 card
    - Tests on V100 card.
    - Tests on x86
- Understanding CMSSW+Patatrack updates needed to add compilation flags and features of Alpaka/kokos using SCRAM

## Day:3

- Tried converting some of the code from CMSSW-Patatrack using cupla and testing.