

# Calorimeter Trigger Systems: Future Activities



- **Aiming to develop the capability of changing the entire calorimeter trigger chain by 2013:**
  - The focus here is to increase the trigger granularity down to the trigger tower level ( $\sim 10 \times 10 \text{cm}^2$ ).
  - There is broad agreement for a uTCA platform for this.
  - Several prototypes are under testing or design.
- **A comprehensive review of all calorimeter trigger algorithms has started aiming to quantify the physics benefits that can be achieved by using the new technology. It has been demonstrated that we can have better:**
  - Electron Triggers
  - Tau Triggers
- **Work has started on new Jet Triggers and should be concluded by February 09 to answer the questions:**
  - How much gain can be extracted by finer granularity for jets in the entire CMS rapidity range ?

# Immediate future



- We have decided to review all the proposed new calorimeter triggers in a workshop at CERN to take place on the last week on February 09.
- The topic of the workshop will be:

## **Calorimeter Triggers at $L=2 \times 10^{34}$** **CERN 25-29 Feb 2009**

- The workshop will review:
  - The performance of the new algorithms at the CMSSW level
  - The first FPGA models and simulation results of the new algorithms.
  - First ideas of conceptual designs
- The workshop outcome will give feedback to the hardware demonstrator designers who will be charged to produce new designs and present them in a future hardware platforms workshop to take place within 2009.

# Phase I Triggers: First Sketch of a Plan



- **2009:** GCT-GT Optical Links
- **2009:** Phase I Simulation Results
- **2009:** Conclude results from demonstrators and preliminary system design.
- **2010:** Design Calorimeter Lvl-1 trigger prototypes
- **2012:** New uTCA GCT
- **2013:** Aim to be ready to go to production of the new system