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Readout System Enhancements for ATLAS ITk Project

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Agenda

Introduction
HL-LHC & ITk

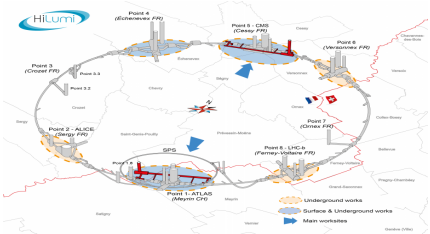
Our Progress
Acknowledgements

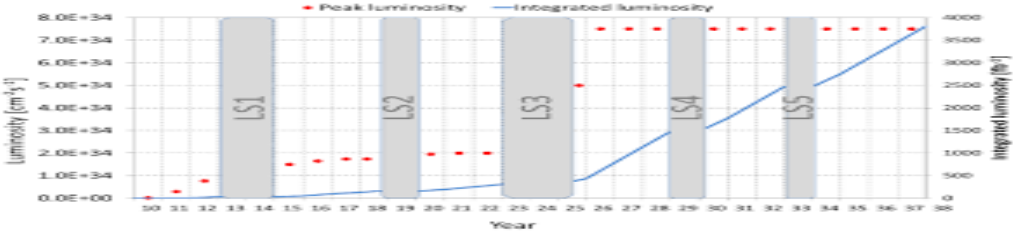
ATLAS & the Inner Detector

High Luminosity LHC & ITk Upgrades

$x10$ increase in instantaneous luminosity!

- $L = 1e73\ \text{fb}^{-1}\ \text{s}^{-1} \rightarrow L = 1e74\ \text{fb}^{-1}\ \text{s}^{-1}$
- More particles, more problems





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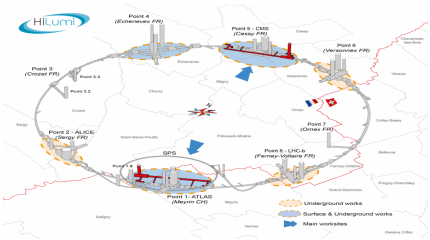
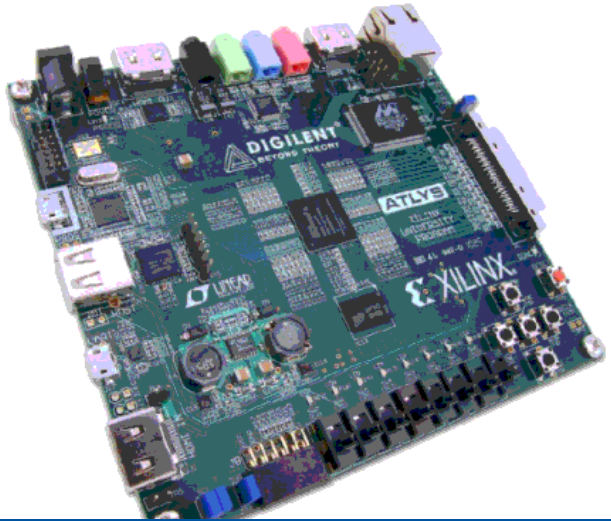


The inner detector has insufficient:

- radiation hardness
- granularity
- bandwidth

ATLYS Board



Obstacles

fuck

Acknowledgements

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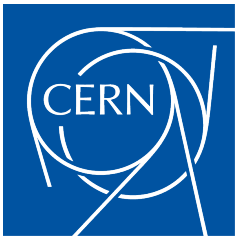
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