ANALYSIS SESSION

ANNUAL MEETING, HGF ALLIANCE "PHYSICS AT THE TERASCALE"
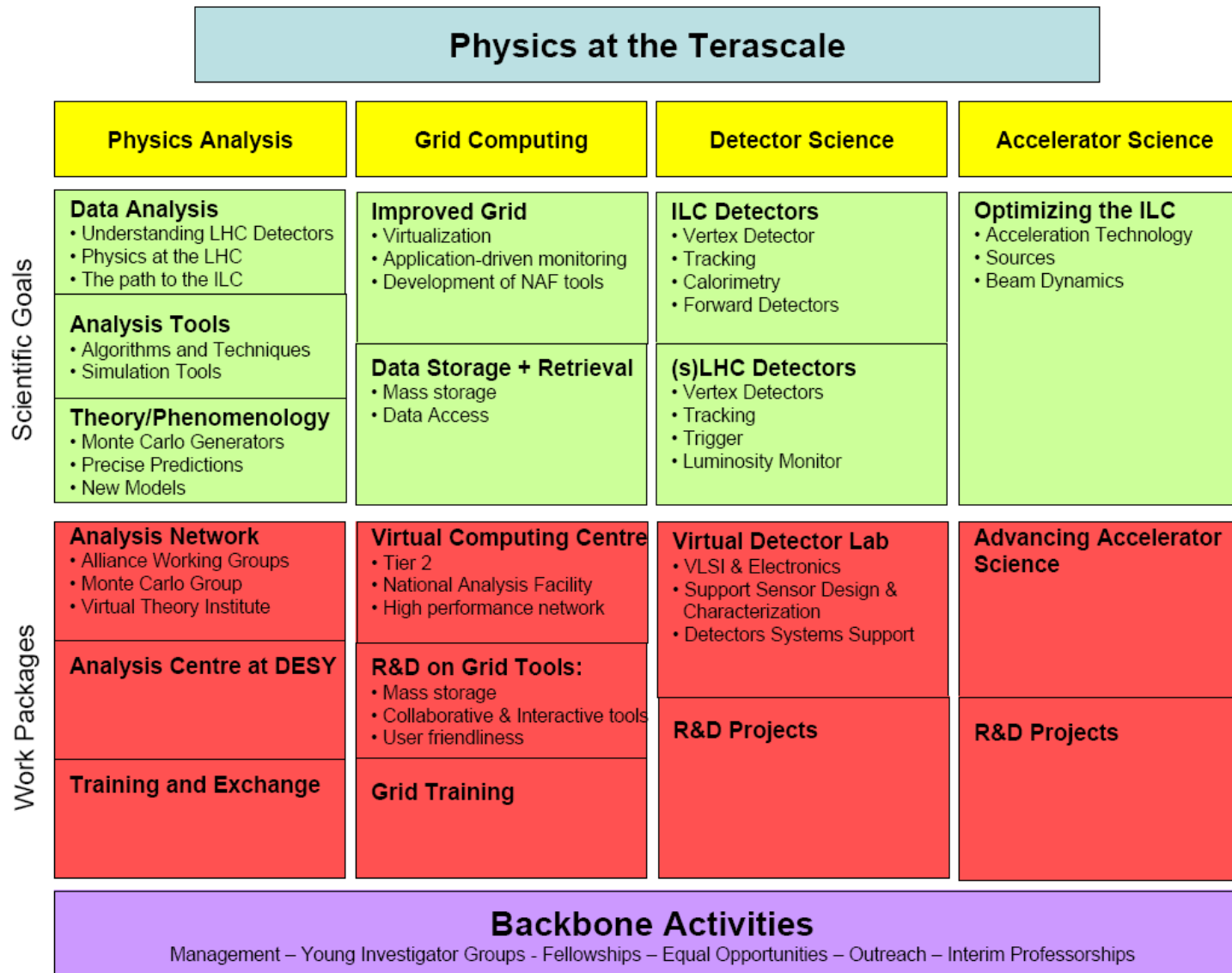
Thomas Schörner-Sadenius

Karlsruhe, 3 December 2013

HELMHOLTZ | GEMEINSCHAFT

DESY

THE TERASCALE ALLIANCE

Physics at the Terascale

	Physics Analysis	Grid Computing	Detector Science	Accelerator Science
Scientific Goals	**Data Analysis** • Understanding LHC Detectors • Physics at the LHC • The path to the ILC **Analysis Tools** • Algorithms and Techniques • Simulation Tools **Theory/Phenomenology** • Monte Carlo Generators • Precise Predictions • New Models	**Improved Grid** • Virtualization • Application-driven monitoring • Development of NAF tools **Data Storage + Retrieval** • Mass storage • Data Access	**ILC Detectors** • Vertex Detector • Tracking • Calorimetry • Forward Detectors **(s)LHC Detectors** • Vertex Detectors • Tracking • Trigger • Luminosity Monitor	**Optimizing the ILC** • Acceleration Technology • Sources • Beam Dynamics
Work Packages	**Analysis Network** • Alliance Working Groups • Monte Carlo Group • Virtual Theory Institute **Analysis Centre at DESY** **Training and Exchange**	**Virtual Computing Centre** • Tier 2 • National Analysis Facility • High performance network **R&D on Grid Tools:** • Mass storage • Collaborative & Interactive tools • User friendliness **Grid Training**	**Virtual Detector Lab** • VLSI & Electronics • Support Sensor Design & Characterization • Detectors Systems Support **R&D Projects**	**Advancing Accelerator Science** **R&D Projects**

Backbone Activities
Management – Young Investigator Groups - Fellowships – Equal Opportunities – Outreach – Interim Professorships

DESY

THE ANALYSIS PROJECT

> Analysis ~~Centre~~ Forum for

   - … coordination

   - … organisation of schools, workshops, seminars

> Large activities: PDF, MC, statistics, BSM physics

> Further Analysis working groups

   - Mtautau

   - LFV

   - Higgs and heavy flavour

   - CJV

   - …

> All these activities received (and some still receive) funding

   - Numerous colleagues paid from Analysis Forum / Alliance funds!

➜ Today: reports from (some of) the funded activities

Level of Alliance-funded / -supported / -encouraged activities decreasing.

TIMETABLE

14:00 - 18:00 **Analysis Project**

Location: KIT, Campus Nord (Aula (FTU))

14:00 **Welcome and introduction** *05'*

Speakers: Thomas Schoerner-Sadenius (DESY) , Herbert Dreiner (Universitaet Bonn)

14:05 **Report from the Mtautau working group** *25'*

14:30 **Parton shower developments** *25'*

Speaker: Zoltan Nagy (DESY)

14:55 **MCs, matching and all that** *25'*

Speaker: Simon Plätzer (DESY Theory Group)

15:20 **The HERAFitter project** *30'*

15:50 **Coffee break** *30'*

16:20 **The PROSA project** *25'*

Speaker: Katerina Lipka (DESY)

16:45 **Open-source approx. NNLO ttbar differential calculations** *25'*

Speaker: Marco Guzzi (DESY)

17:10 **Low-x phenomenology** *25'*

Speaker: Henri Kowalski (DESY)