The background of the slide is a photograph of a modern, multi-story building with a facade of vertical metal slats. The building is set against a blue sky with some clouds. In the foreground, there are trees and a sidewalk. A semi-transparent blue rectangle is overlaid on the lower-left portion of the image, containing the title and subtitle text.

Grundlagen des Supercomputings

Einführung | 14.11.2018 | Rainer Oesmann

- Organisation
- Gebäude
- Infrastruktur
- Anwendungen
- Services

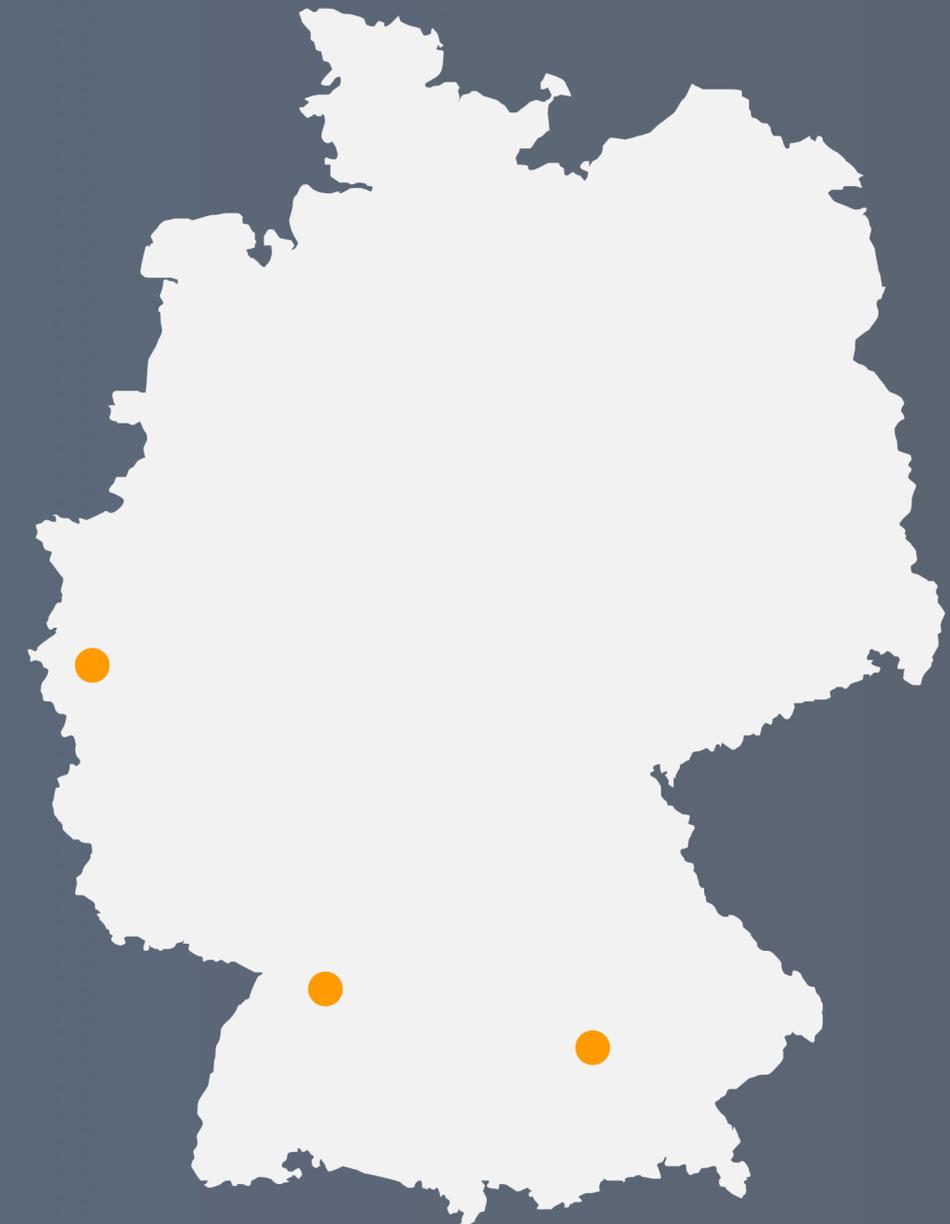
Organisation

Gauss Centre for Supercomputing (GCS)

Zusammenschluss der deutschen
wissenschaftlichen
Hochleistungsrechenzentren

- LRZ | Garching, München | SuperMUC
- HLRS | Stuttgart | Hazel Hen
- JSC | Jülich | JUWELS

Gegründet 13. April 2007



Partnership for Advanced Computing in Europe (PRACE) | 25 Länder

europäische Höchstleistungs-
Infrastruktur

Gründungsmitglieder

- GCS (Deutschland: LRZ, HLRS, JSC)
- BSC (Spanien)
- CSCS (Schweiz)
- CINECA (Italien)
- GENCI (Frankreich)

PRACE 2: 2017 – 2020



Gebäude

1972 - 2006



1972 - 2006



Hitachi SR 8000 F1

2006 - 2012

lrz



2006 - 2012

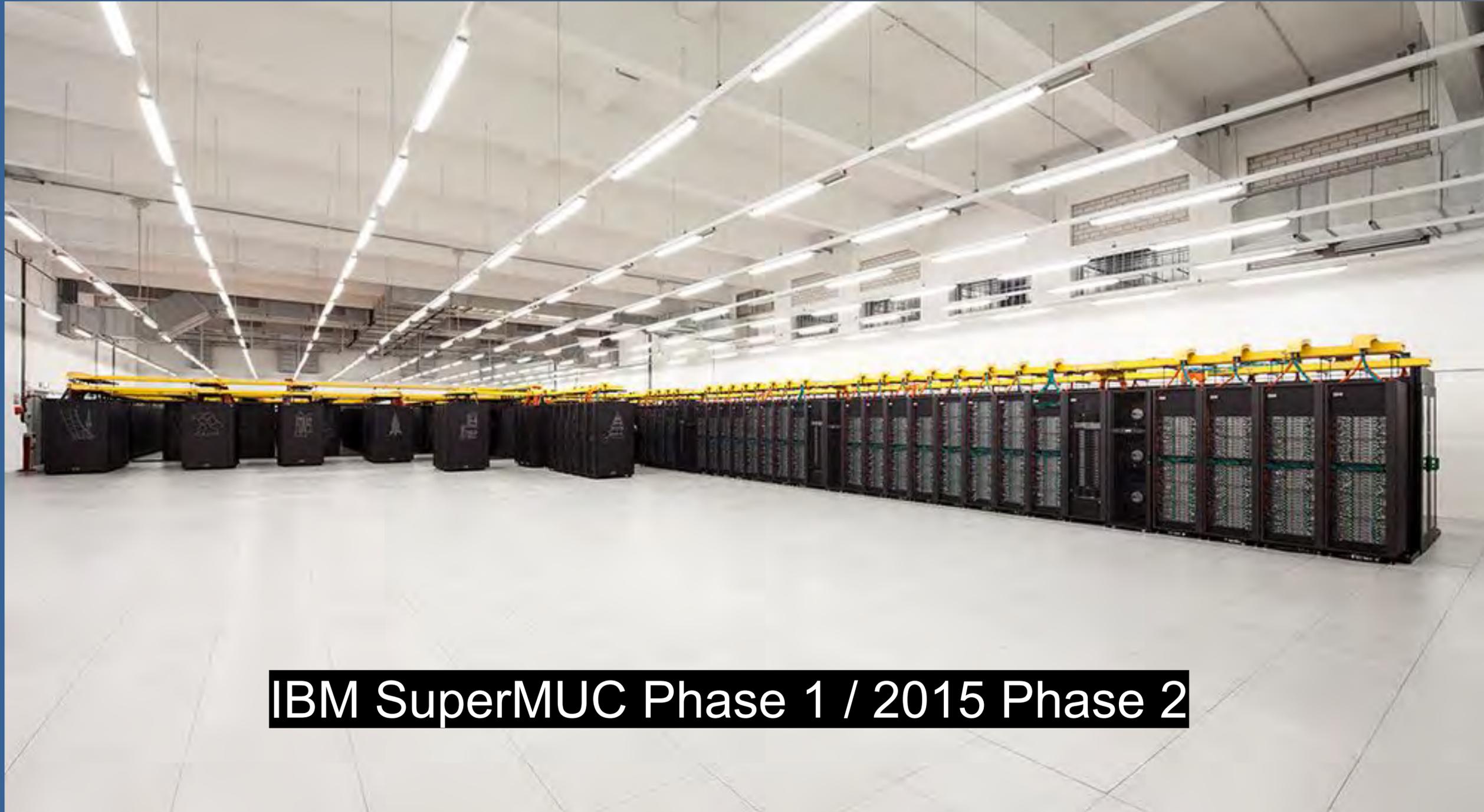
lrz



2012 - heute

lrz

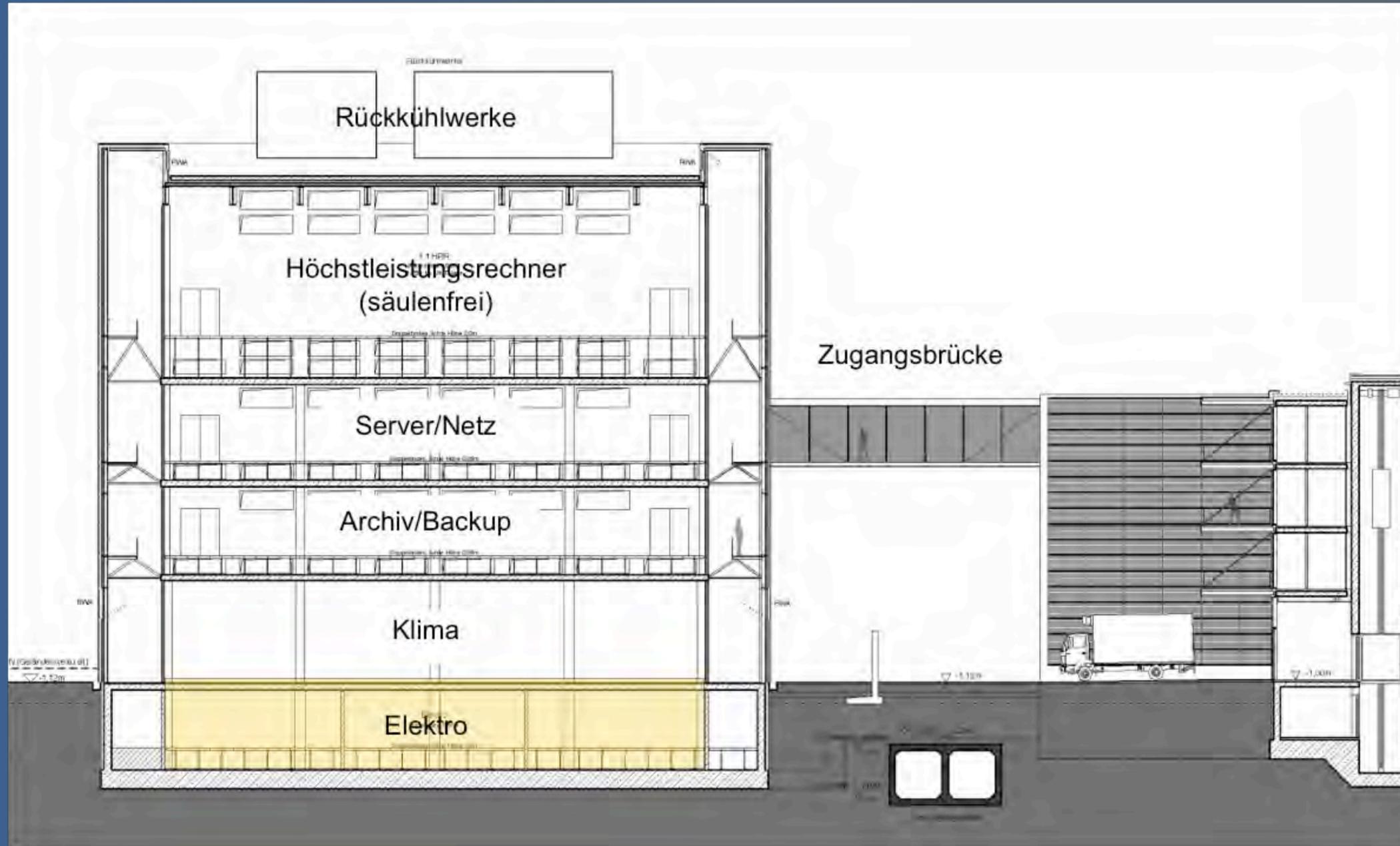




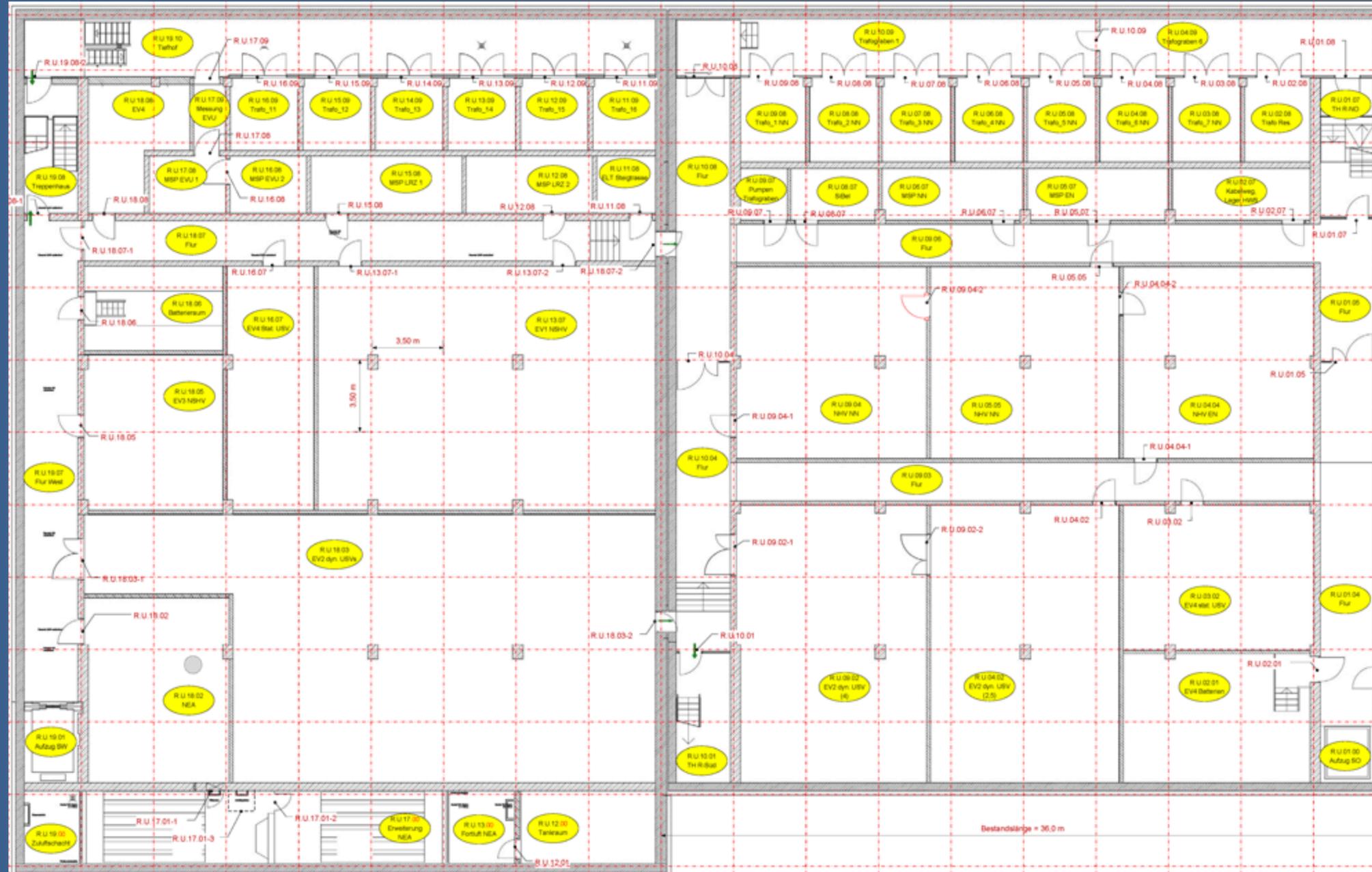


- Intel Lenovo NeXtScale ThinkSystem Cluster
 - 12.960 Intel Skylake Prozessoren (Xeon Scalable)
 - 311.040 Cores
 - ca. 26,9 PFlops
 - 719 TByte RAM
 - 70 PByte Disk Storage
 - Intel Omni-Path fabric Network
- aktuell Nr. 8 in Top500 List

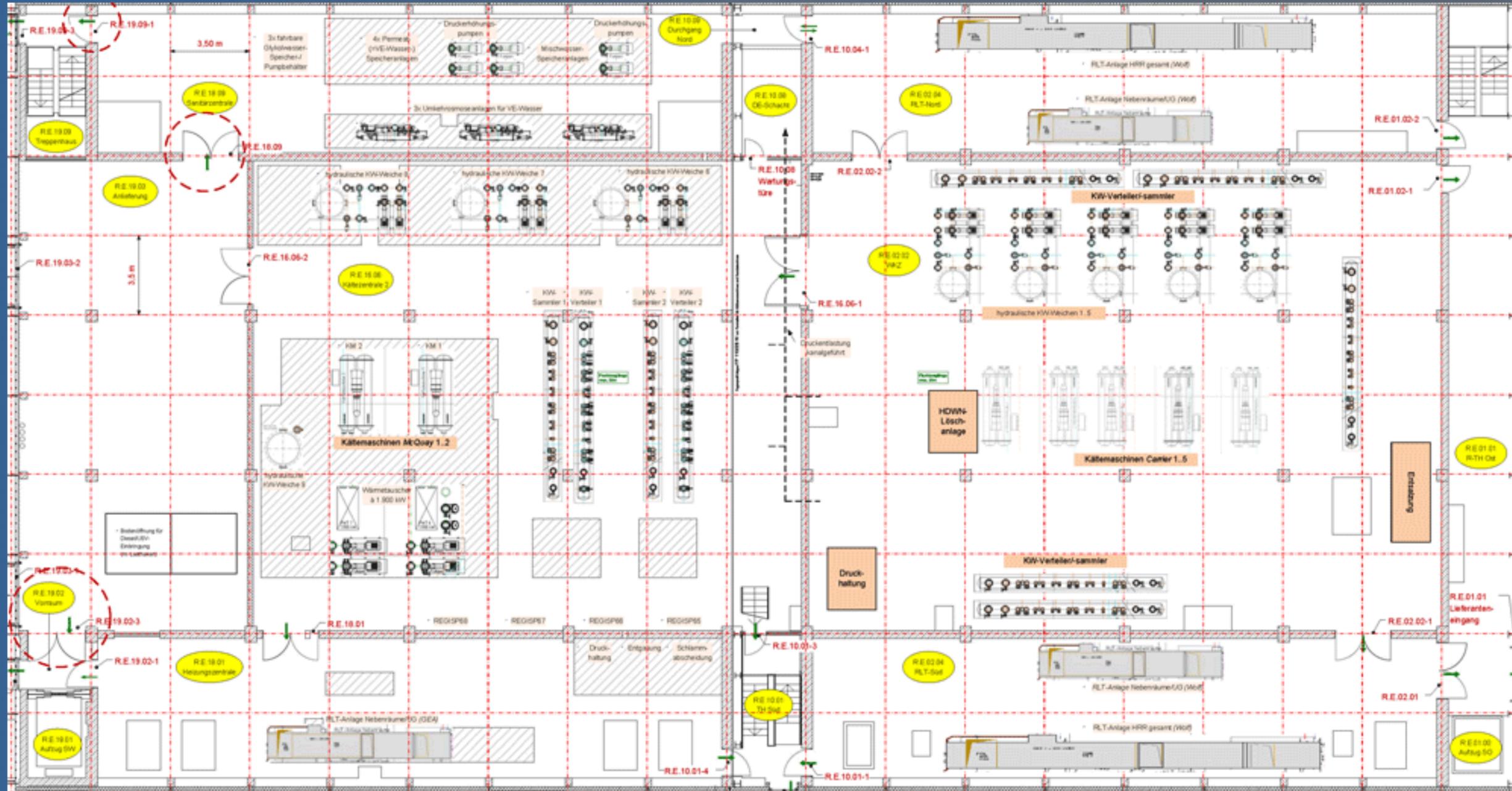
Infrastruktur



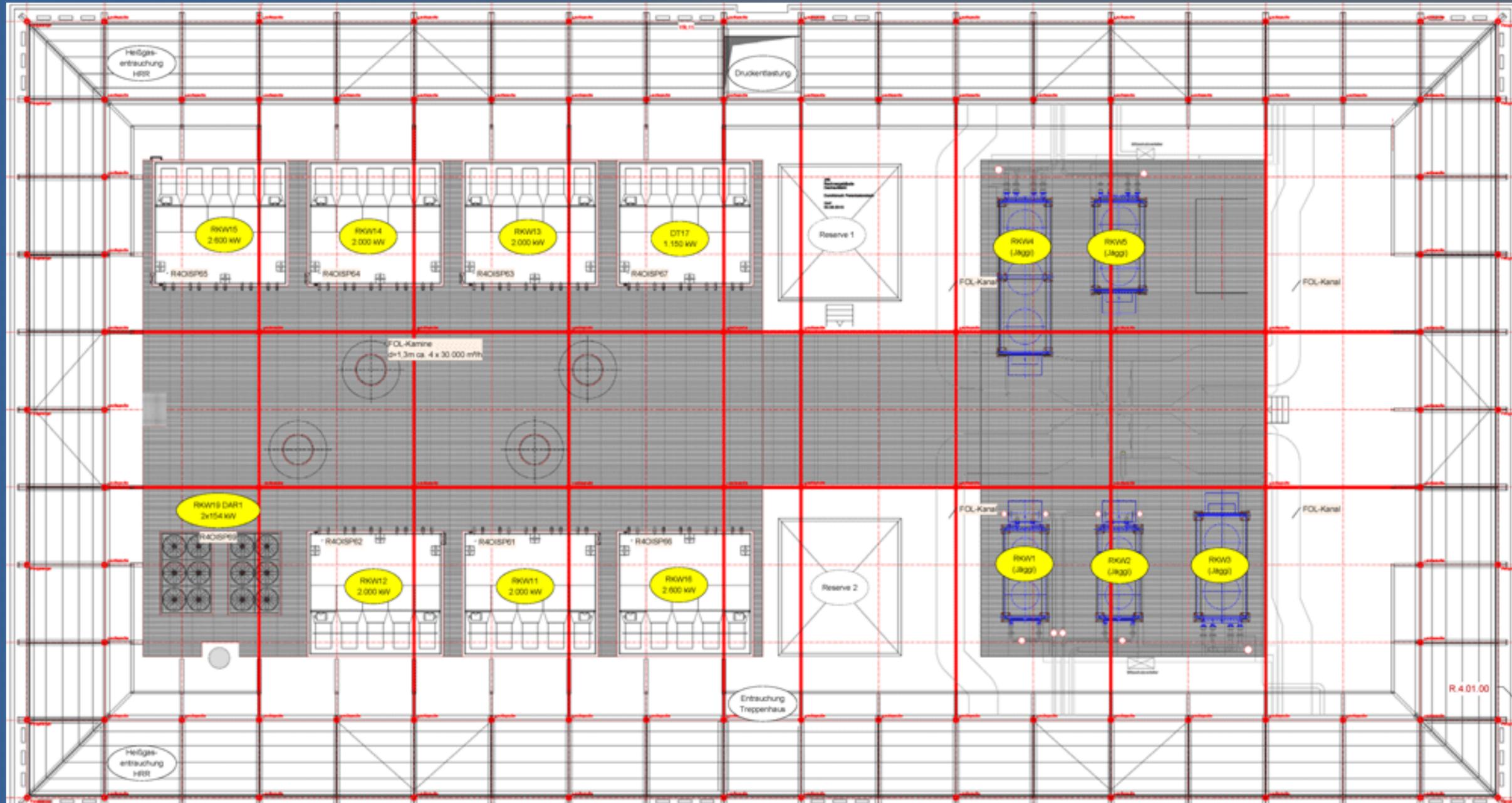
Stromversorgung (UG)



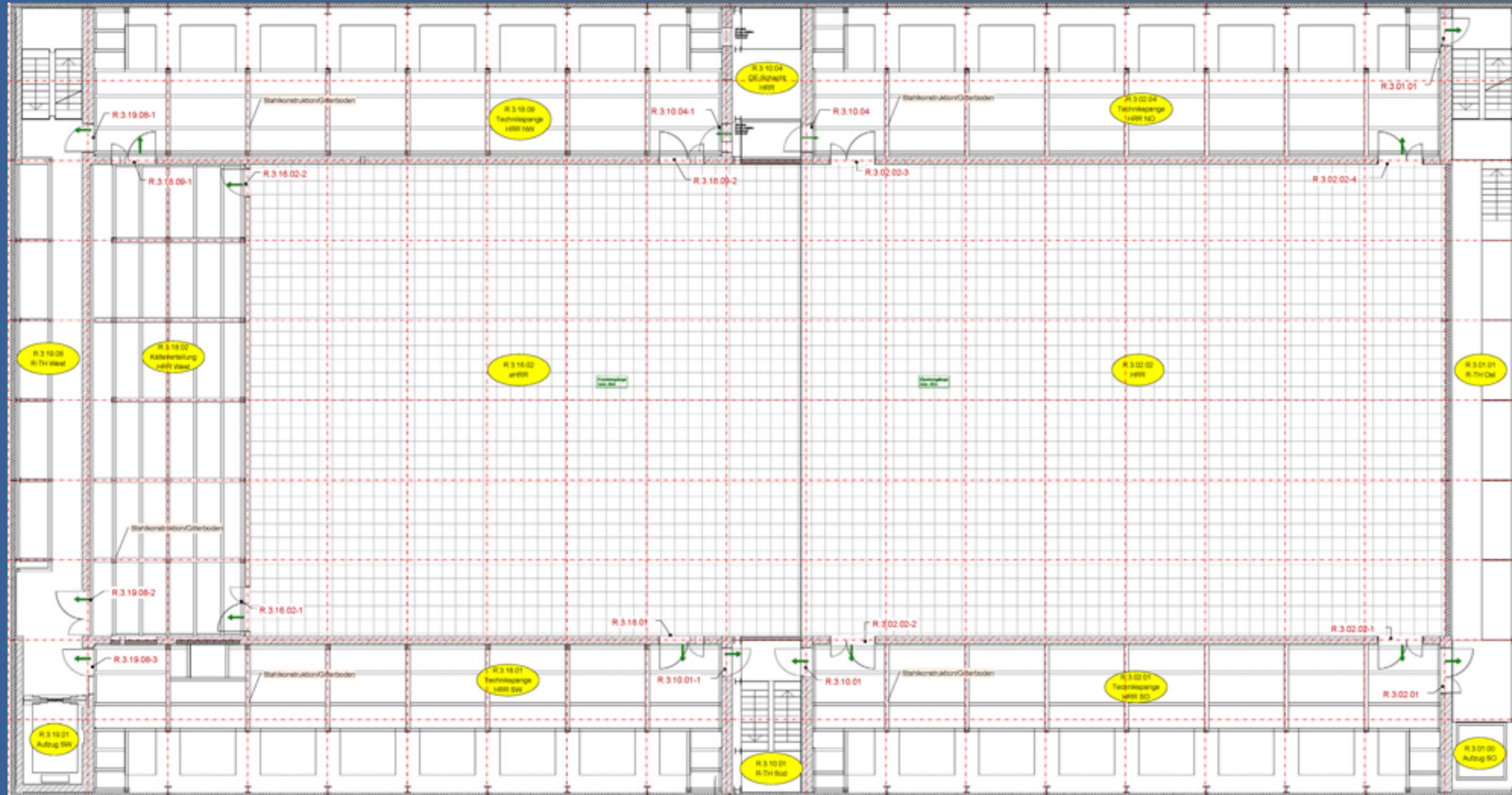
Kühlung (EG)



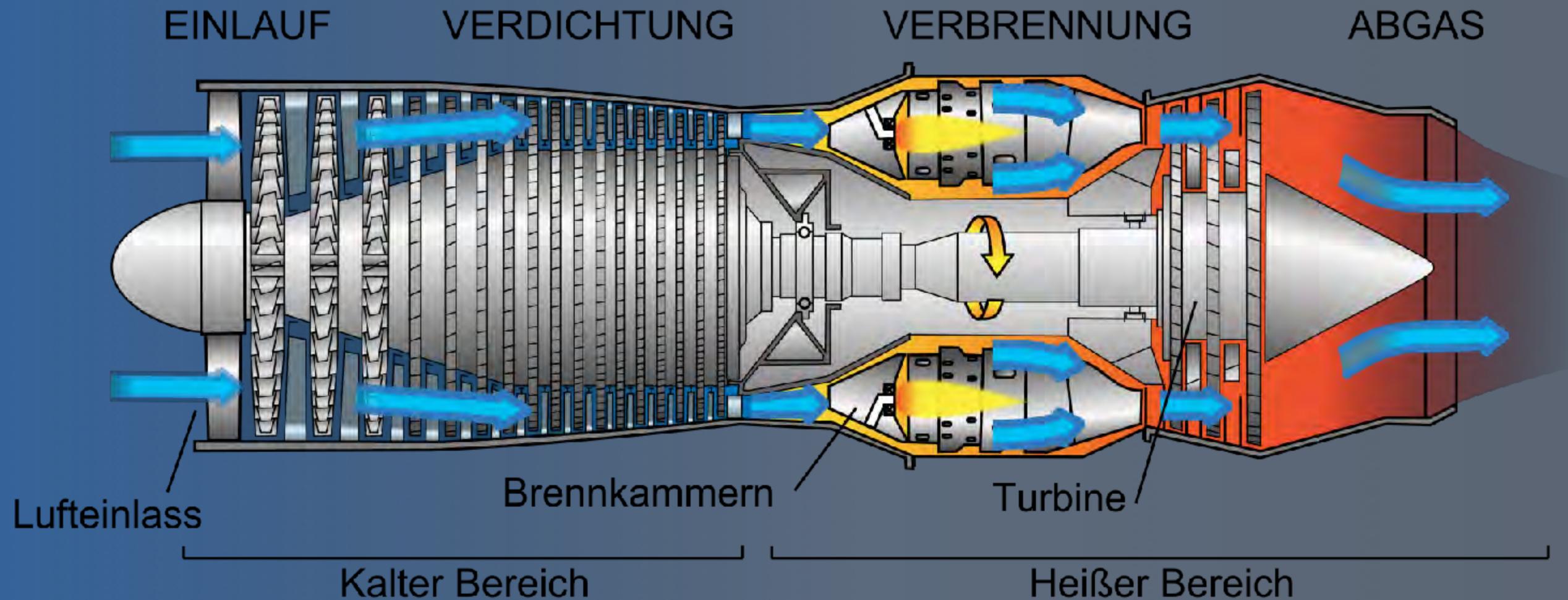
Kühlung (Dach)

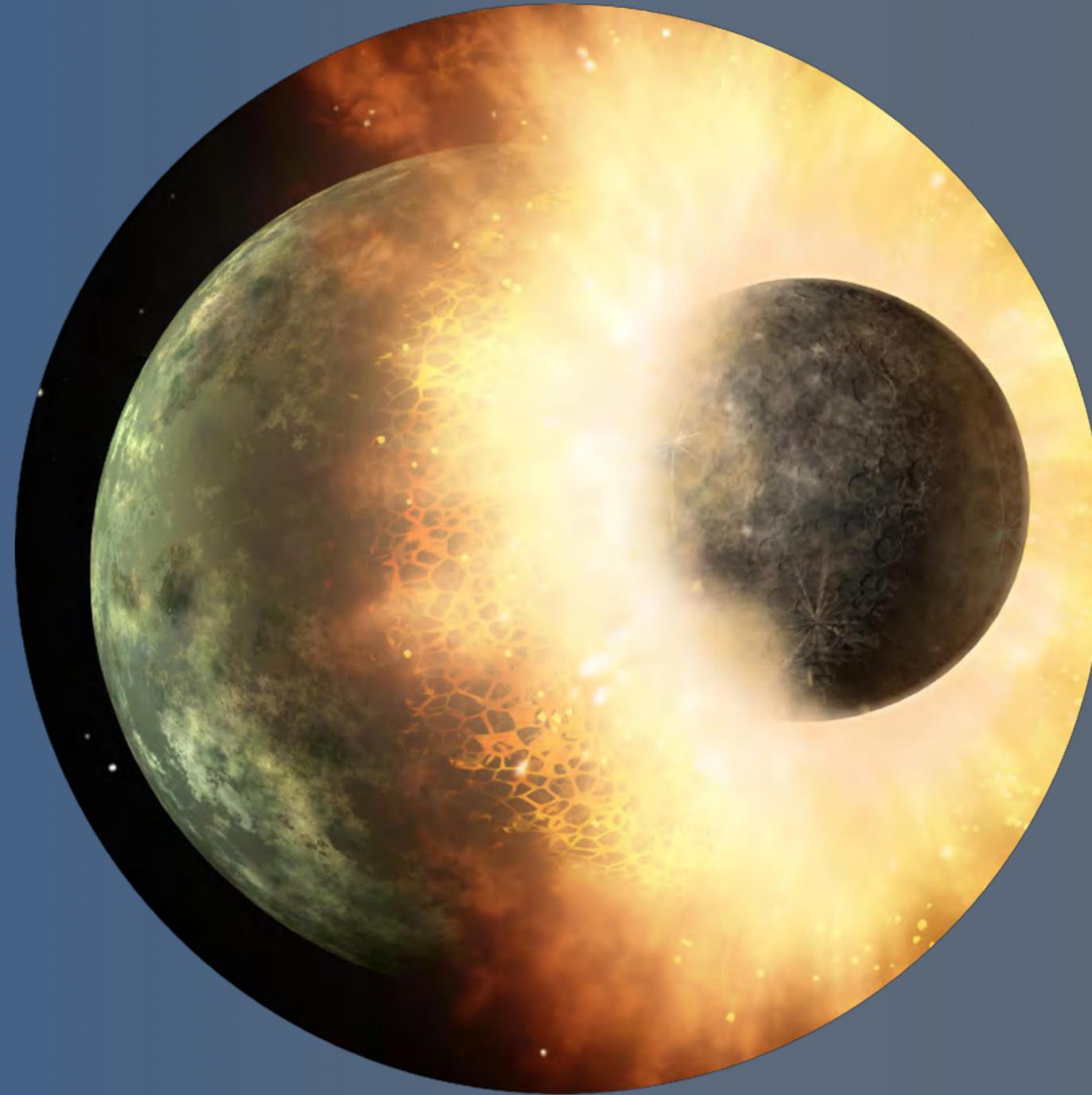


Höchstleistungsrechnerraum (3. OG)



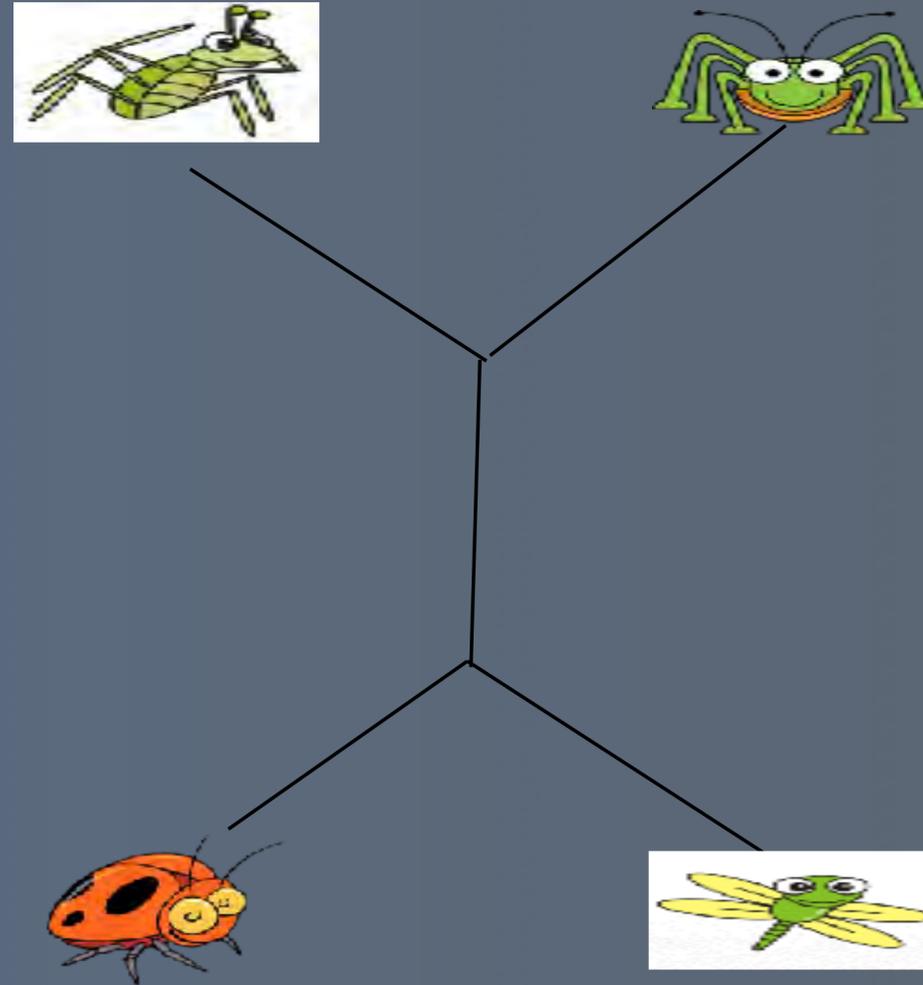
Anwendungen





 ACGT
 ACC
 ACGG
 AAGC

ACGT
ACC -
ACGG
AAGC



Sequencing

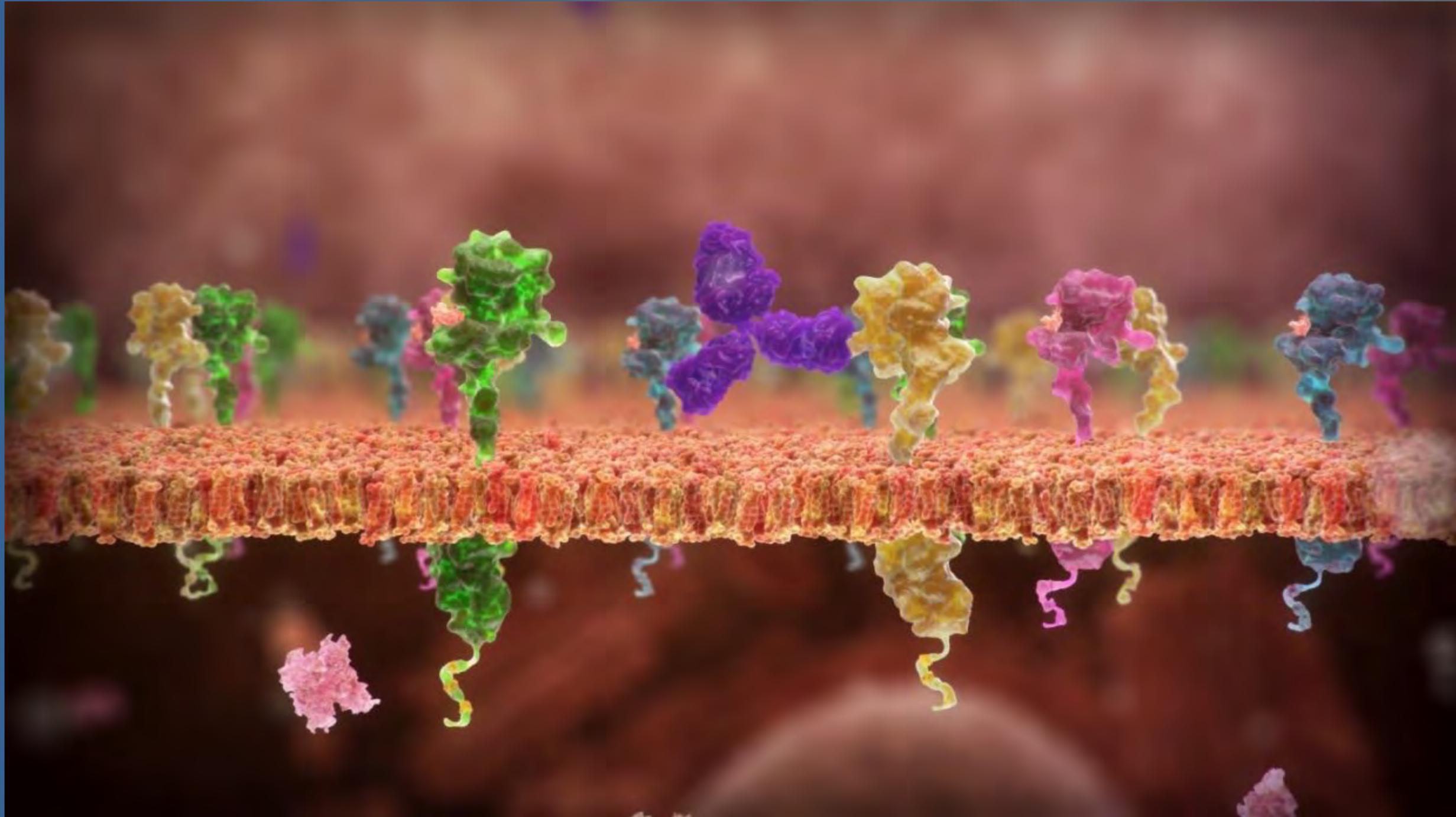


Alignment



Phylogenetic Tree

Alexandros Stamatakis, H-ITS



Services

Email



Network



Storage



Cloud Computing



Cluster



HPC



Training



Consultancy

