TECHNISCHE UNIVERSITÄT DRESDEN

SMARTLAB SOLUTIONS THE GEOMETRY OF VALUE

slabs smart lab systems INT GROUP

Chair of Bioprocess Engineering

iHEX – The mobile, connected lab of the future

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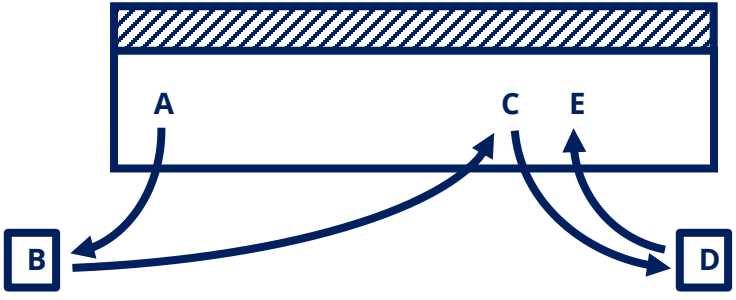
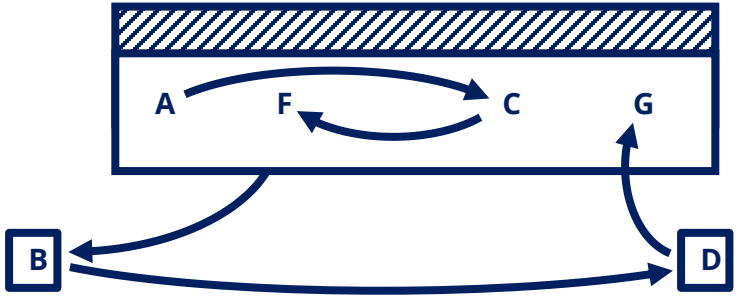
iHEX – idea and introduction

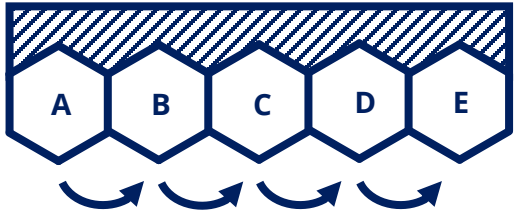
Lab transformation necessary to fit a wide variety of processes

workflows in common lab architecture:

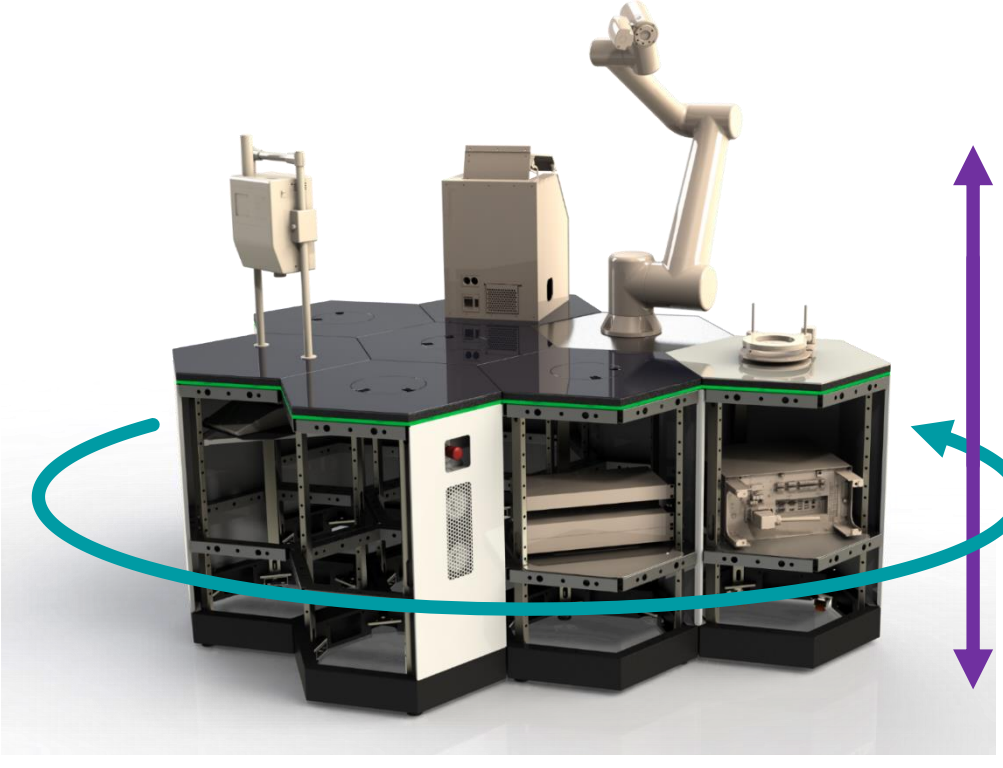




workflows in iHEX lab architecture:



iHEX – idea and introduction
more than lab furniture!



Vertical connectivity
between elements and devices (on top, inside or function integrated)

Horizontal organisation
network between elements and devices
→ communication between different devices and the user to form a workflow

iHEX is an interface between the devices, users, control software and the infrastructure itself!

Impressions
iHEX goes Analytica 2021

Webinar for Analytica 2021
Forum Digitale Transformation

Recent student projects

Development, design and integration of COVID ELISA workflow into iHEX system:

- workflow analysis and transformation
- CAD design and device integration
- workflow implementation for automated device control and data management

Development of prototype for automated handling and storage of microtiter plates:

- integration of Thermo Fisher Spinnaker robotic arm on mobile iHEX element
- CAD design and development for robotic arm integration and temperatured MTP storage
- implementation of control software
- test and validation

iHex - possible student projects

- hardware development and device integration
- software development and workflow automation
- workflow transformation into iHEX system
- also student jobs available!

Interested in creating the lab of the future? Improve your skills in lab automation, CAD design, microcontrollers programming and rapid prototyping.

Don‘t bother to contact – peter.schmidt@tu-dresden.de

Thank you for your attention!