



## How can a proper industry-academia partnership lift the quality of research? “Reflections from a personal experience”

Issam Al-Kafaji  
August 25<sup>th</sup>, 2021

- **Types of research**
- **Quality of research**
- **Research foundation**
- **Research sponsorship**
- **Agile way of conducting research**
- **Applications**
- **Closeout**

- **Types of research**
- **Quality of research**
- **Research foundation**
- **Research sponsorship**
- **Agile way of conducting research**
- **Applications**
- **Closeout**



**Research:** is a study in which scientific methods are applied in a creative way to create concepts that help explain and control certain issues or find solution to problems and challenges

## **Fundamental research**

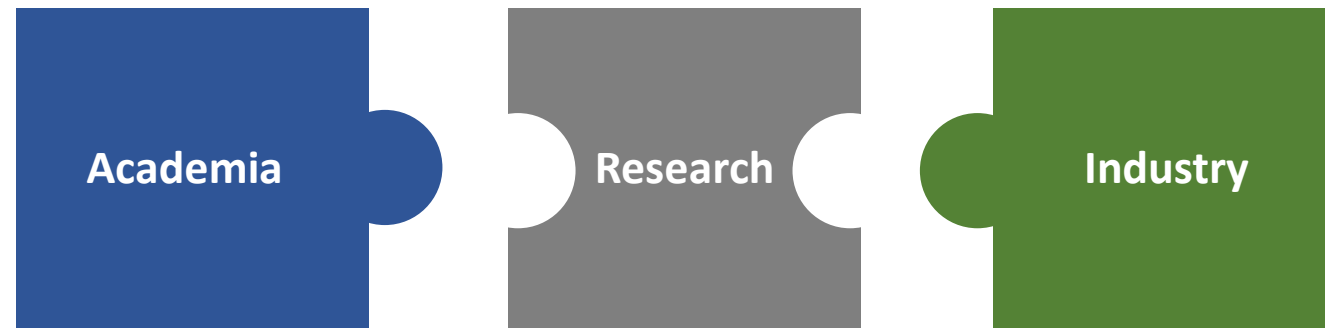
- Expands knowledge
- Curiosity driven
- Answers (why, what or how)
- Increase understanding of principles
- No immediate commercial impact
- May not lead to solutions of practical problems

VS

## **Applied research**

- Commercially driven
- Finds solutions to problems
- Creates better or new products
- Sponsored
- Clearly defines roles and responsibilities of stakeholders

Research: is a study in which scientific methods are applied in a creative way to create concepts that help explain and control certain issues or find solution to problems and challenges

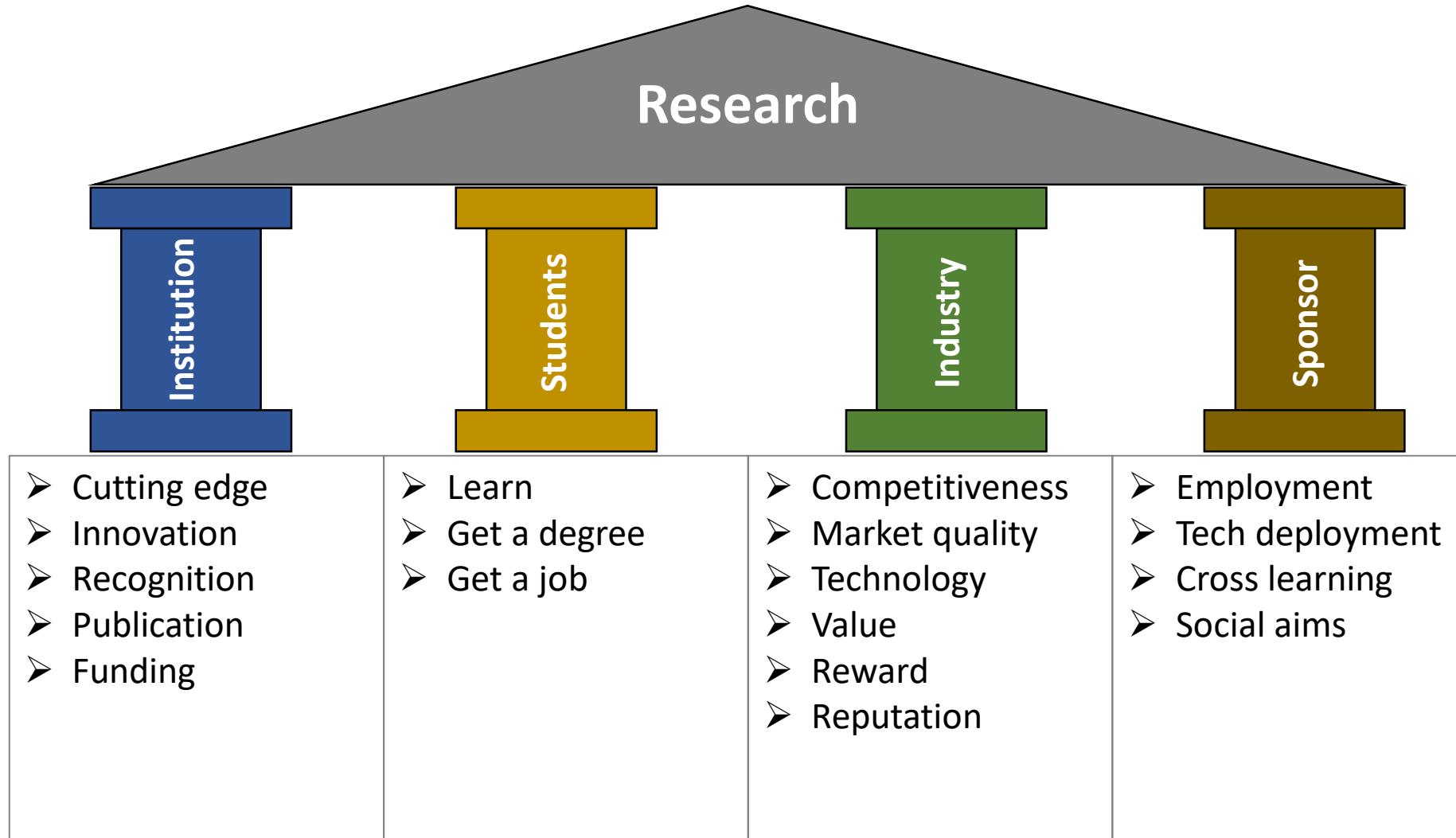


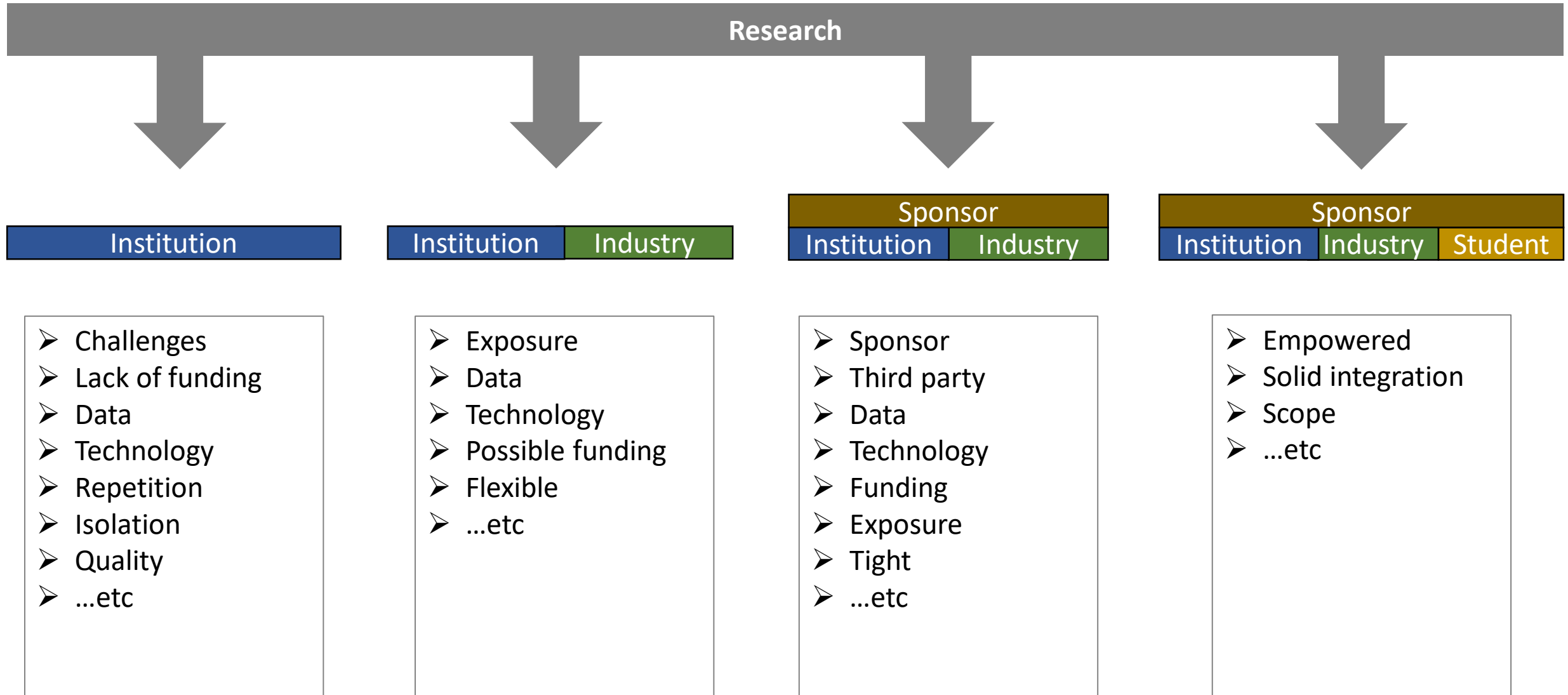
Research is THE connector between academic institution and industry

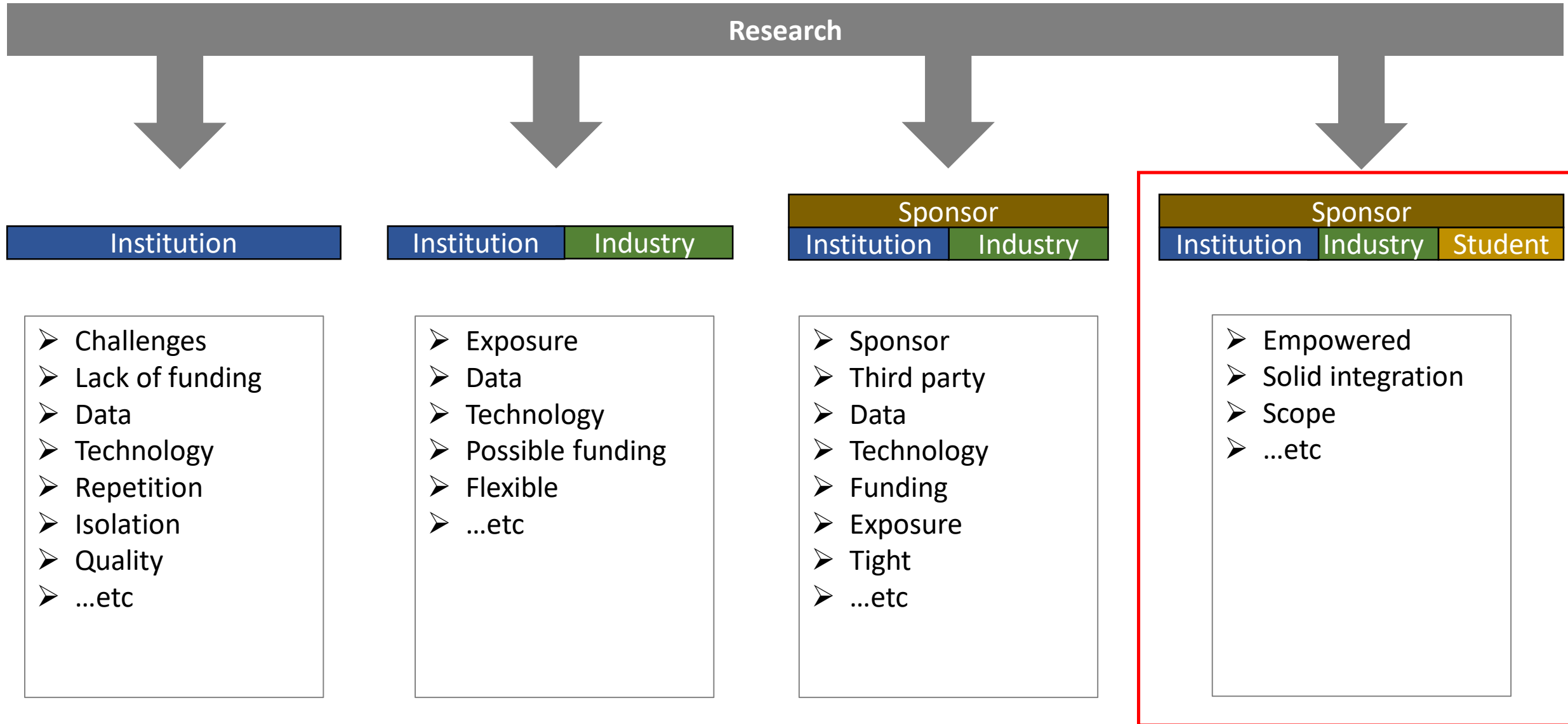


Research is of high quality if

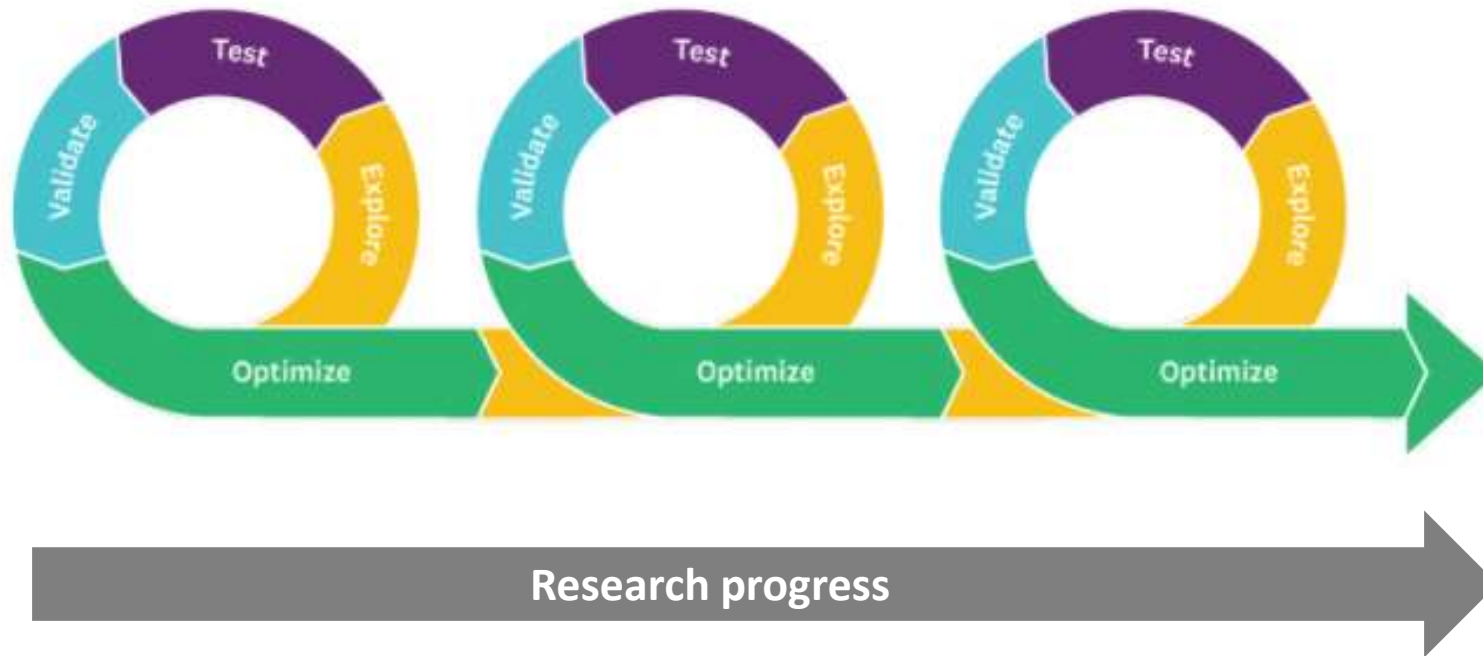
- Creates new knowledge
- Contributes to real-life solutions



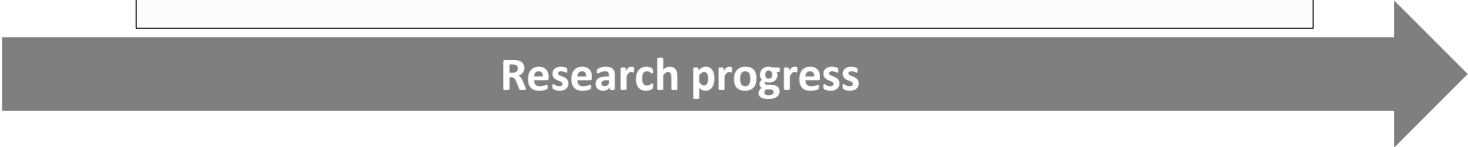
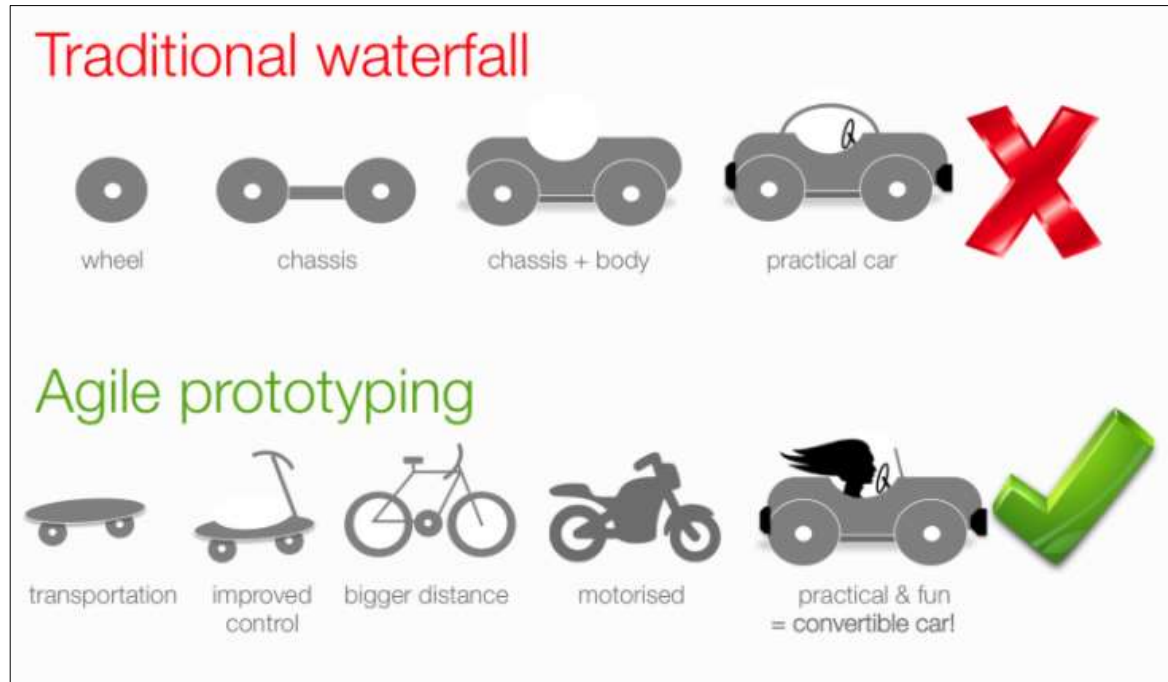








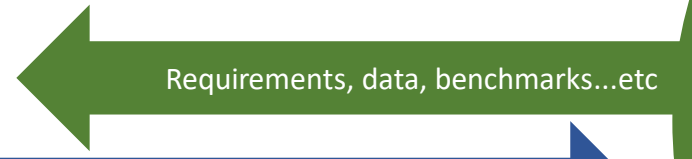
- Incremental
- Robust
- Testable
- Feedback
- Validation



- Incremental
- Robust
- Testable
- Feedback
- Validation



**Academia**



**Industry**



Applied research  
Commercial software applied in industry



- **Promotion of Industry-Academia partnership**
- **Industry-Academia partnership generates employment opportunities**
- **Conduct applied research**
- **4-pillars of applied research (institution, industry, sponsor and students)**
- **Think agile and conduct incremental and tangible research tasks**
- **What can a research be used for?**



## Harvard and MIT Cloud Workshop

Thursday, October 7, 2021  
9AM – 3PM PDT

Advance Registration is Required

[Register Now](#)

David Brooks, Daniel Sanchez and Onur Mutlu at the 2013 IAP Cloud Workshop Hosted at Harvard

## Welcome to the IAP

The Industry-Academia Partnership (IAP) is an association that fosters R&D and innovation by bringing together industry and university partners in pursuit of timely themes in applications and infrastructure, including, AI and machine learning, hardware acceleration, operating systems, networking, Big Data, security, storage and data management - all in the context of distributed systems - from mammoth data centers to tiny IoT devices on the edge of the cloud.

The IAP hosts workshops and webinars on university campuses with experts from academia and industry to discuss their work and spark new ideas and activities. Below are remarks by Professor Christos Kozyrakis at a recent Stanford IAP Workshop, regarding the value of IAP participation.



# Thank you!