



# ASSESSMENT OF NEW TECHNOLOGY

THOMAS POTEET, VP OF CORPORATE DEVELOPMENT



## WHY WOULD WE LOOK INTO THE INNOVATION STREAM? (WHY HASN'T THIS PROBLEM ALREADY BEEN SOLVED?)

- Legacy solutions haven't quite been able to physically deliver the desired result
- Legacy solutions have been able to get the job done, but data collection, for example, has not been internalized
- Data collection and sharing has happened, but no means of analysis or control has been available
- Analysis and control have been available, but no method of results visualization or characterization has been available

# ARE CURRENT ASSETS FIGHTING AGAINST EACH OTHER?

## At the physical level:

- Adjacent processes are interconnected but can't be optimized
- Output of one process degrades another
  - Materials/throughput
  - Equipment deterioration



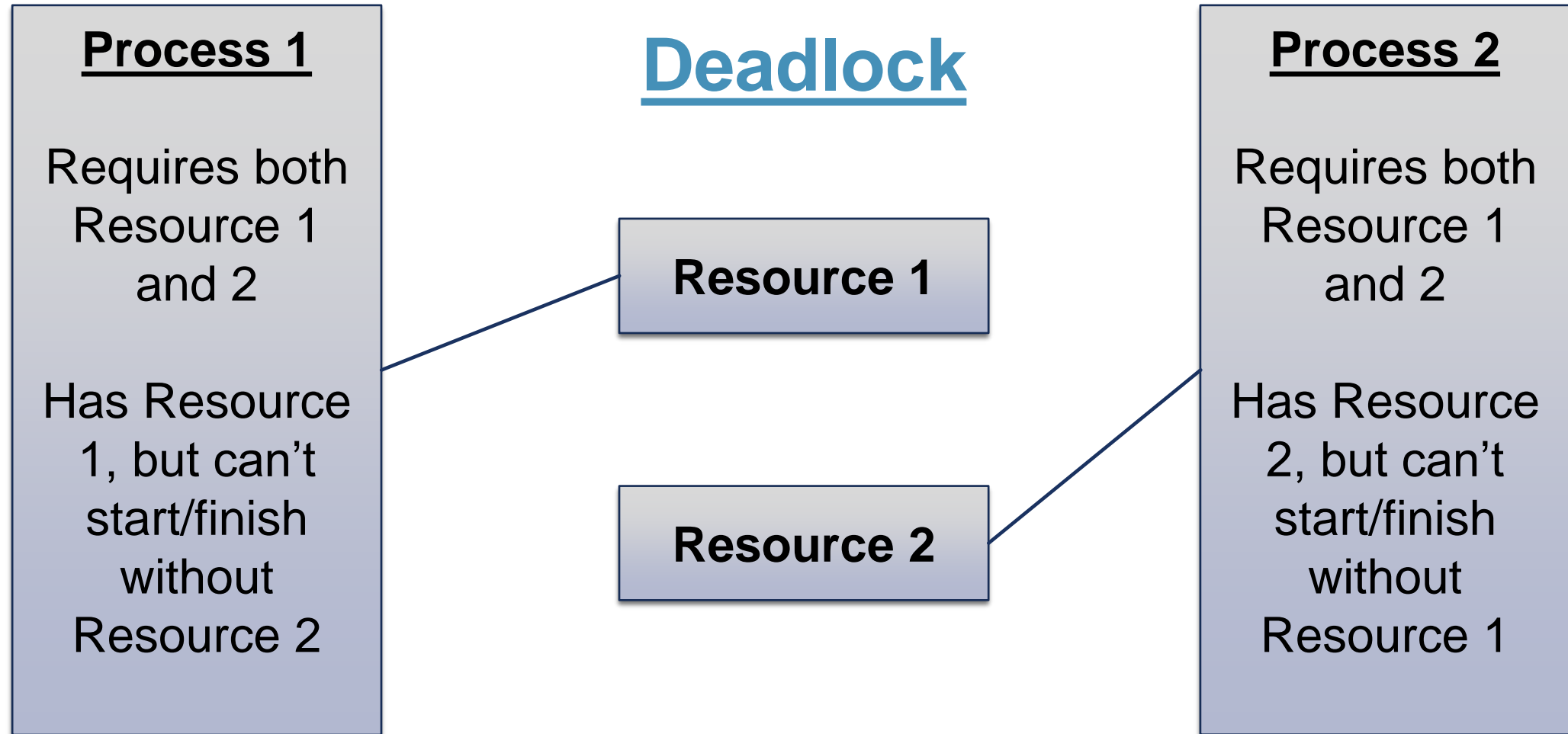
# ARE CURRENT PROCESSES FIGHTING AGAINST EACH OTHER?

At the organizational/system level:

- Important data disconnects
- Labor roles overlap (or don't connect)
- Enterprise is not aware of opportunities to collaborate

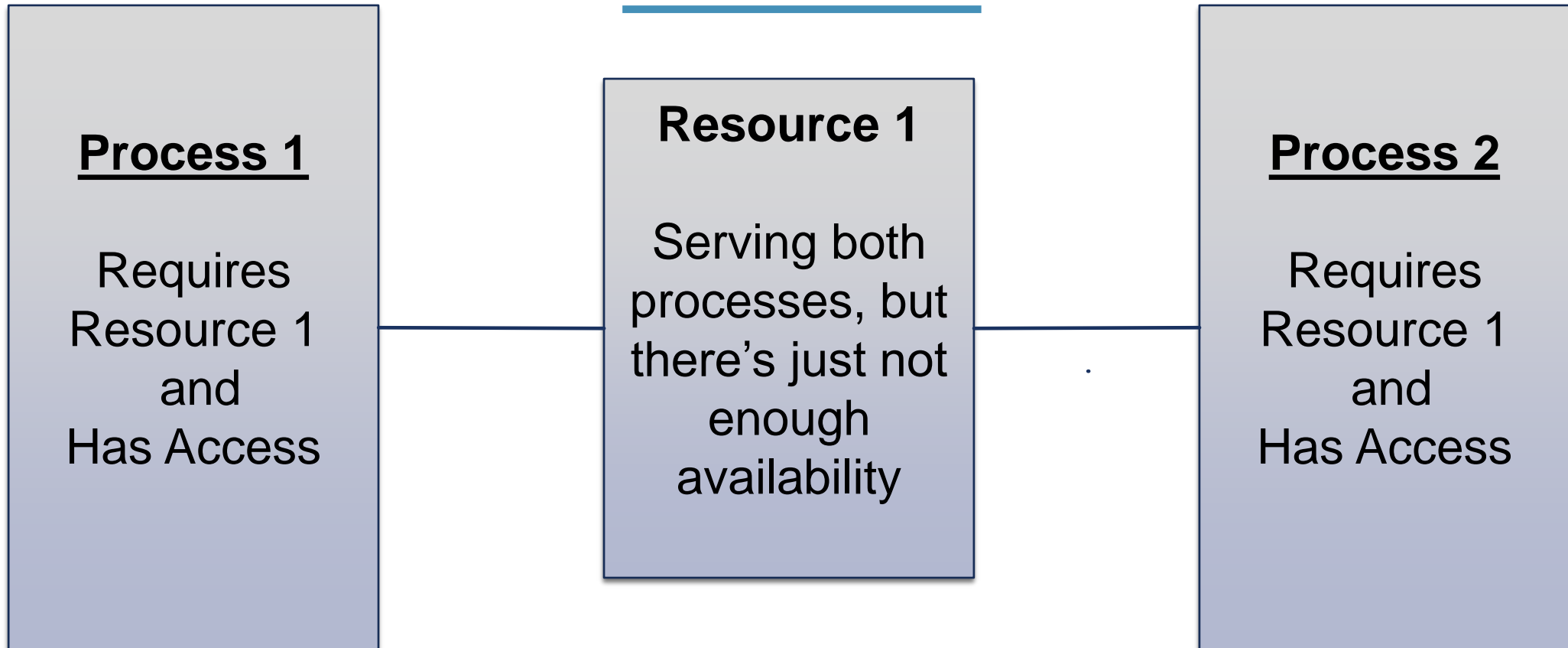


# COMPETING FOR THE SAME RESOURCES VS DIRECT CONFLICT



# COMPETING FOR THE SAME RESOURCES VS DIRECT CONFLICT

## Starvation

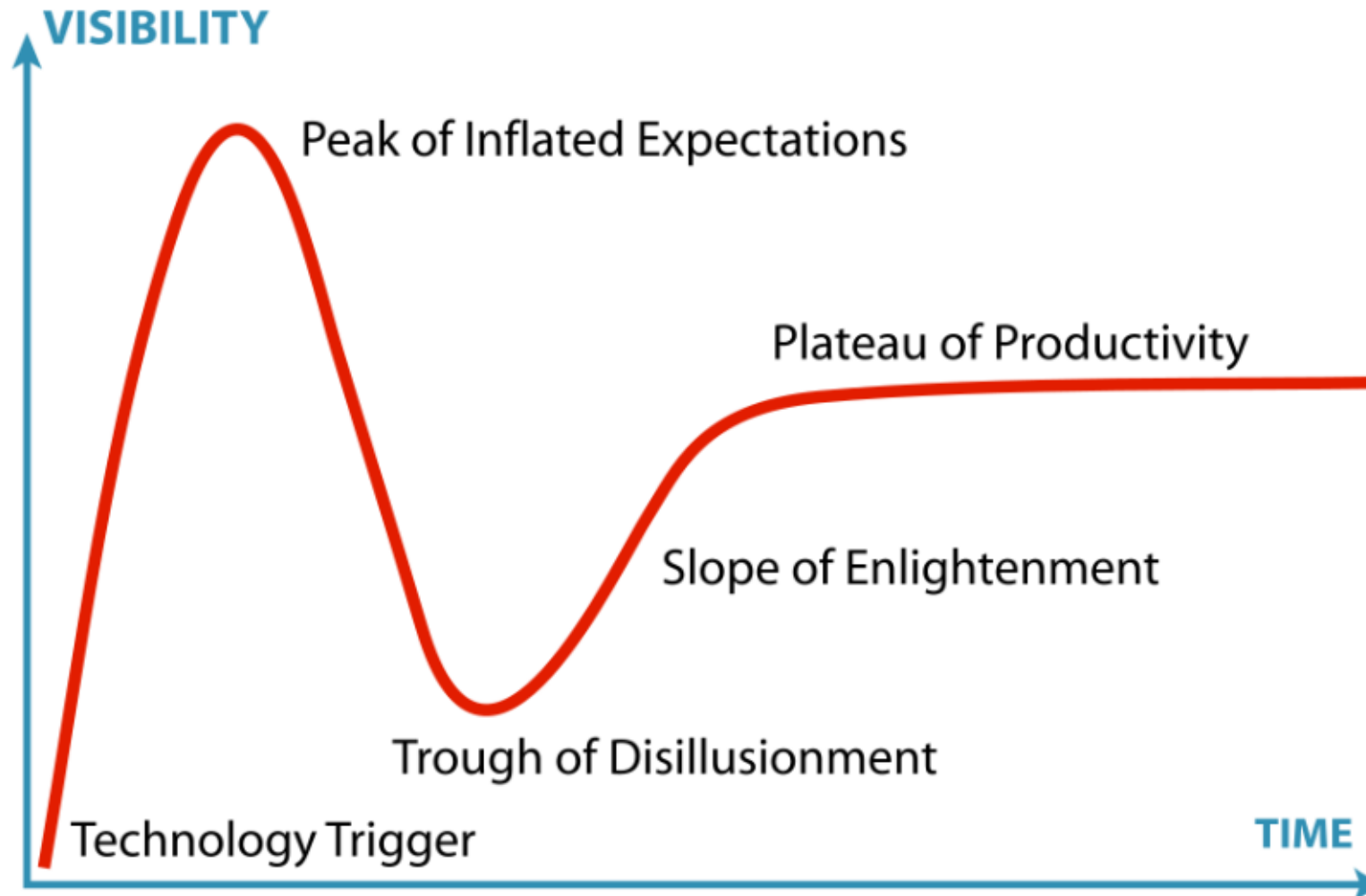


# WHAT WOULD PROPOSED TECHNOLOGY DO DIFFERENTLY OR BETTER?

- Clear conflicts
- Optimization
- Control and flexibility
- Improved economics
- Safety and environmental

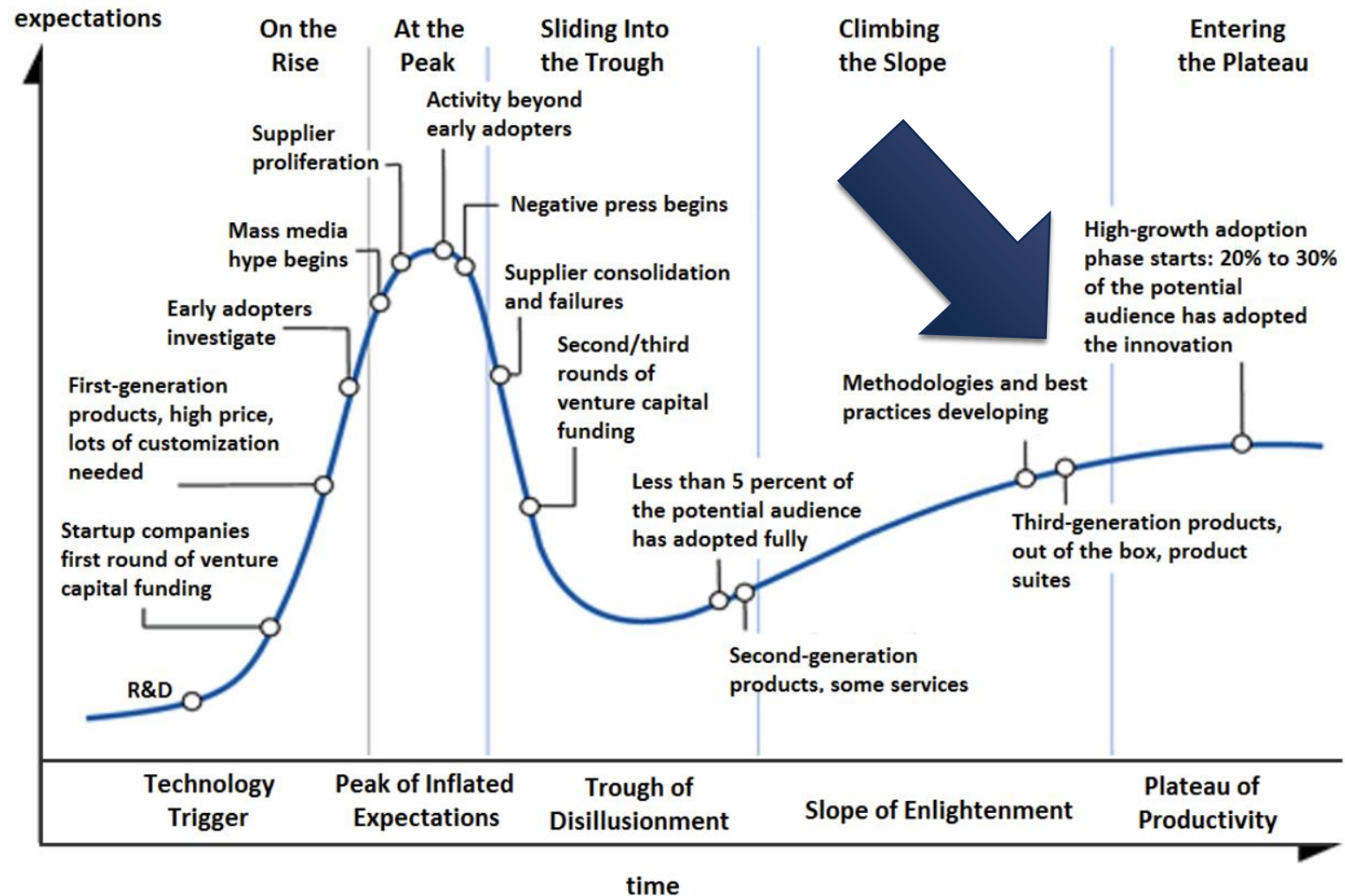


# THE HYPE CYCLE

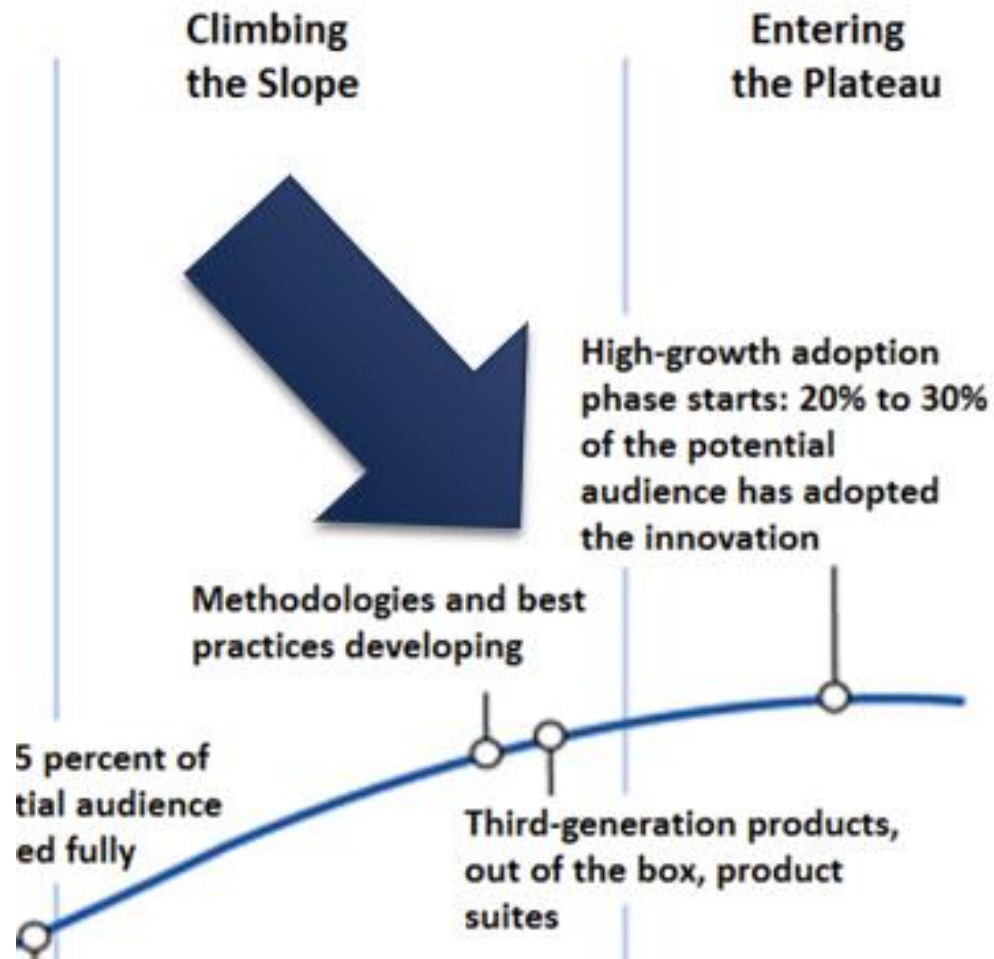




# STARTING POINTS FOR CONSERVATIVE ORGANIZATIONS

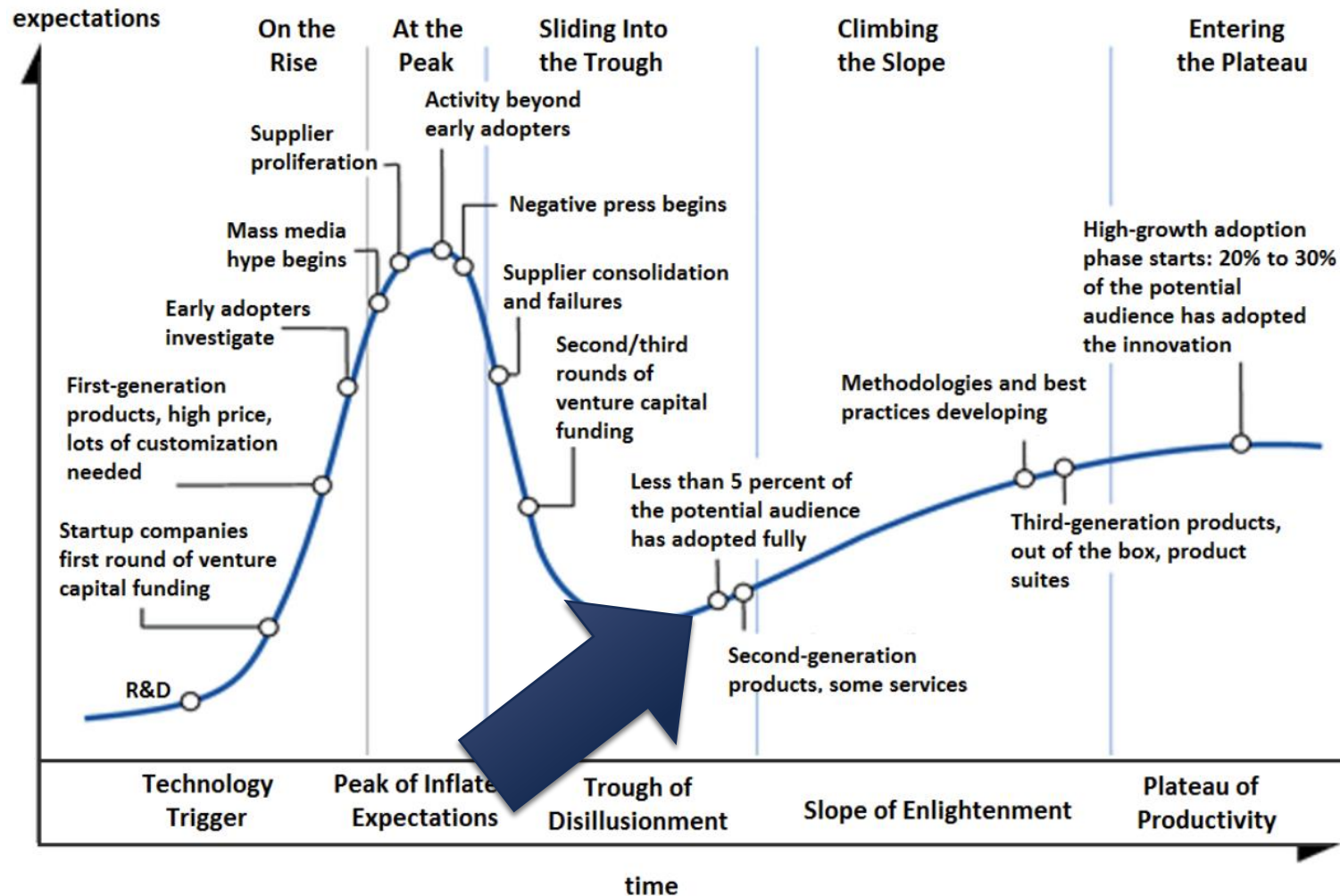


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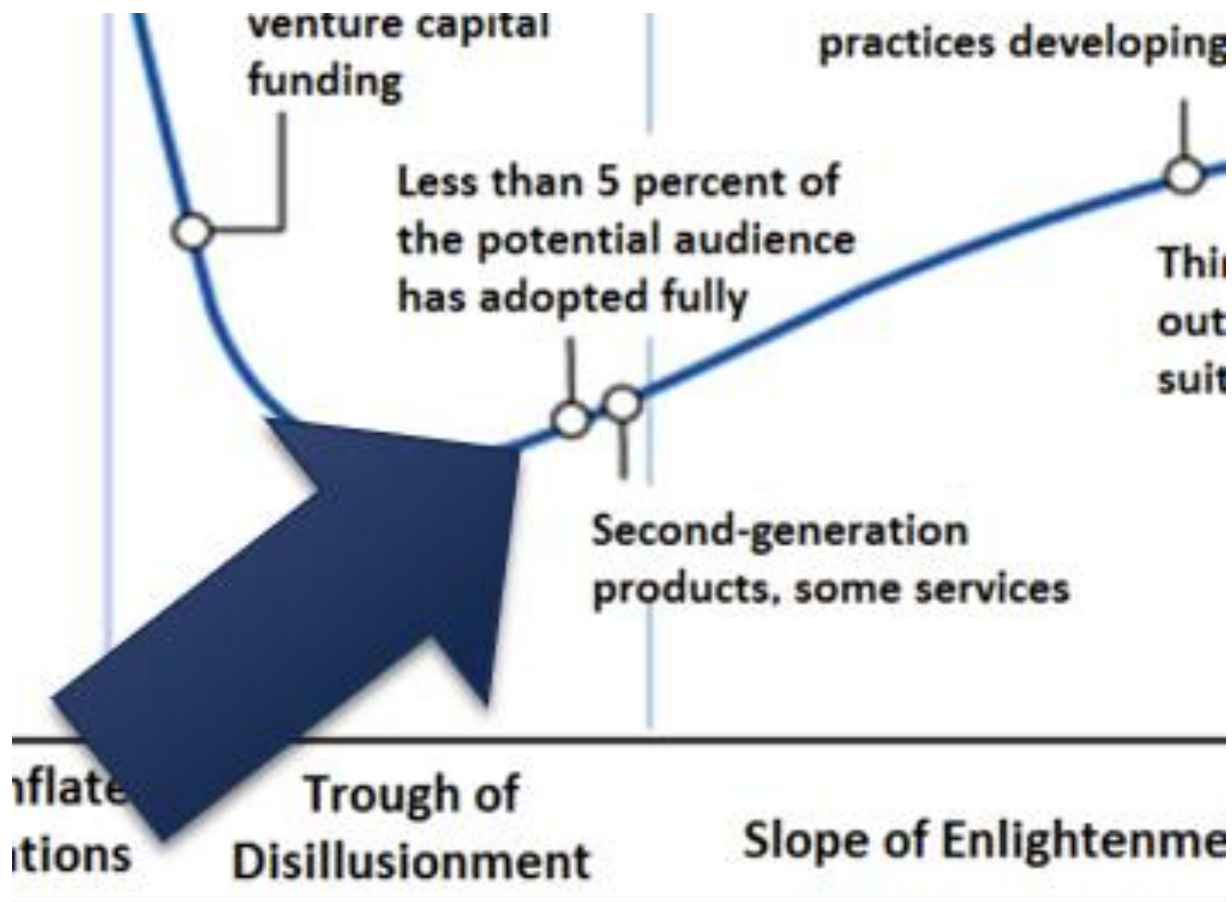


- Methodologies and best practices developing
- Third-generation products, product suites

# STARTING POINTS FOR “RESEARCH” ORGANIZATIONS

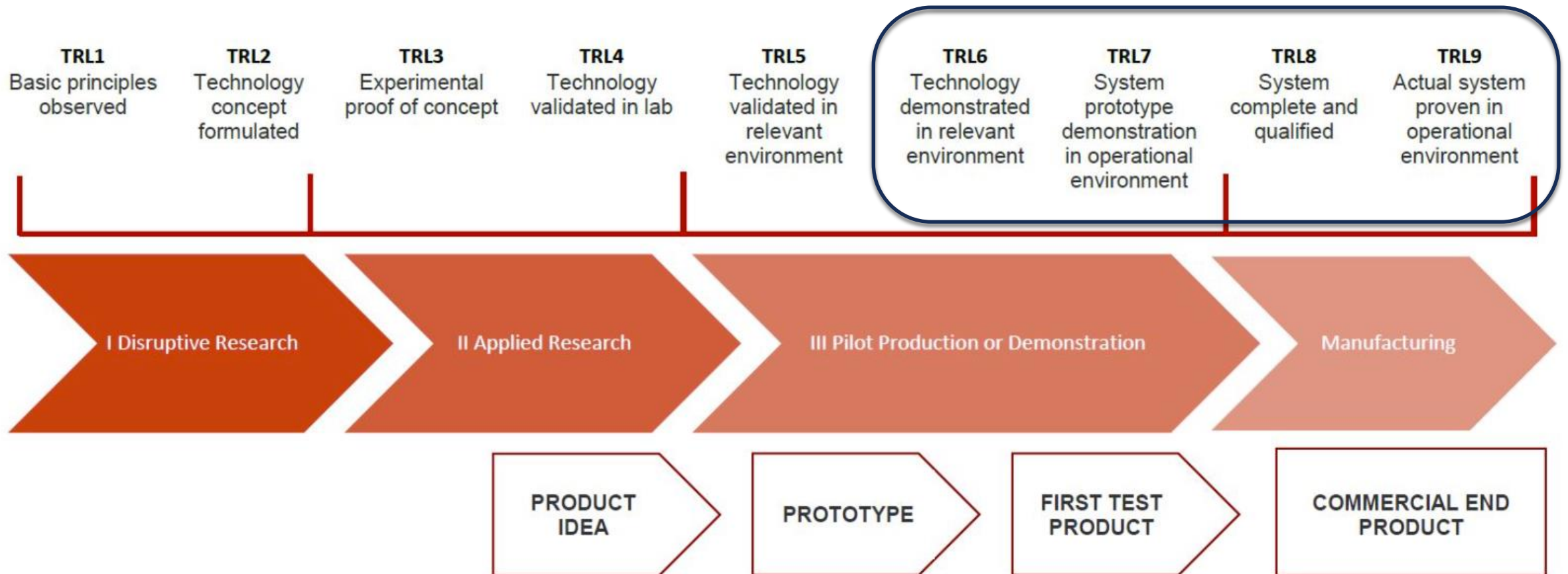


# STARTING POINTS FOR “RESEARCH” ORGANIZATIONS



- Smaller audience of adoption
- Second-generation products, some services

# TECHNOLOGY READINESS LEVELS



- Developed by NASA. Well known in manufacturing.

# TECHNOLOGY READINESS LEVELS

**TRL5**  
Technology  
validated in  
relevant  
environment

**TRL6**  
Technology  
demonstrated  
in relevant  
environment

**TRL7**  
System  
prototype  
demonstration  
in operational  
environment

**TRL8**  
System  
complete and  
qualified

**TRL9**  
Actual system  
proven in  
operational  
environment

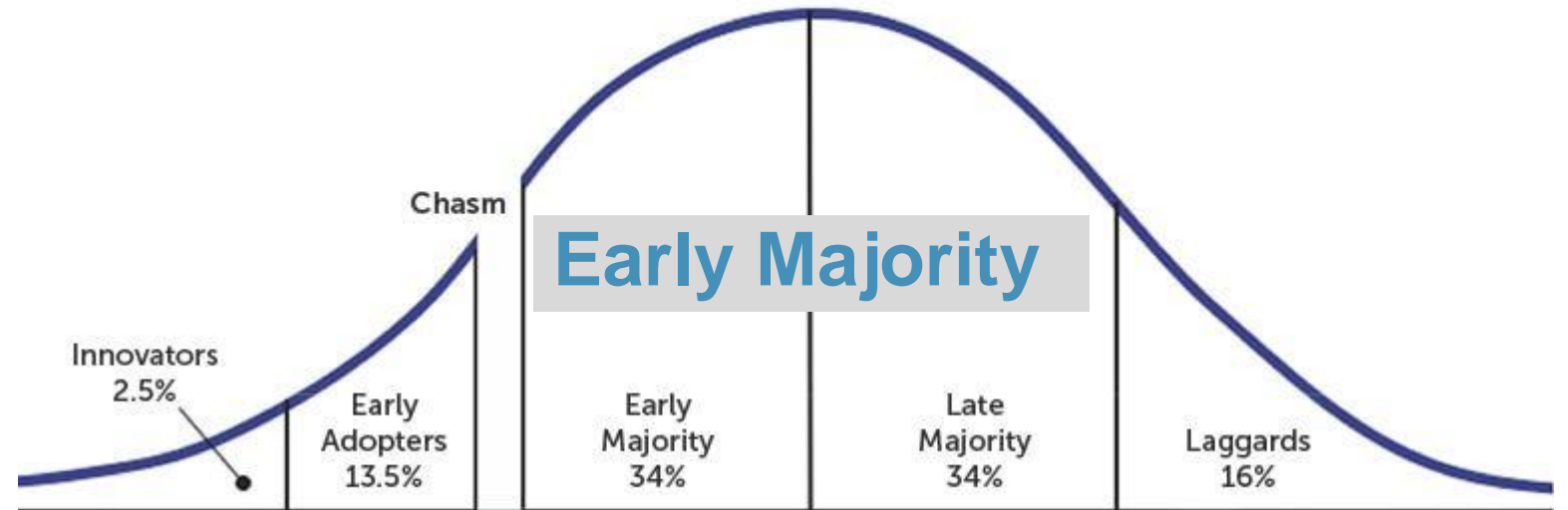
III Pilot Production or Demonstration

Manufacturing

# CROSSING THE CHASM, BY GEOFFREY MOORE

- Pragmatic
- Risk minimizers
- Support standardization
- Care about:
  - Quality
  - Vendor's organization
  - Support infrastructure
  - Reliability
- In it for the long haul
- Like to see competition

## Technology Adoption Life Cycle



# SUCCESSFUL APPLICATION OF TECHNOLOGIES AND SOLUTIONS

## Criteria

Requirement: work to be done, volumes, points counts, capabilities, performance factors, etc.

Solution elements: pumps, motors, computers, software, controllers, electricity, fuel, etc.

Sustainment and support: maintenance, licensing, subscriptions, safety, security, user engagement, etc.



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## Criteria

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**Big question: Will this change over time?**

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**Big question: Can this be adjusted over time?**

Sustainment and support: maintenance, licensing, subscriptions, safety, security, user engagement, etc.

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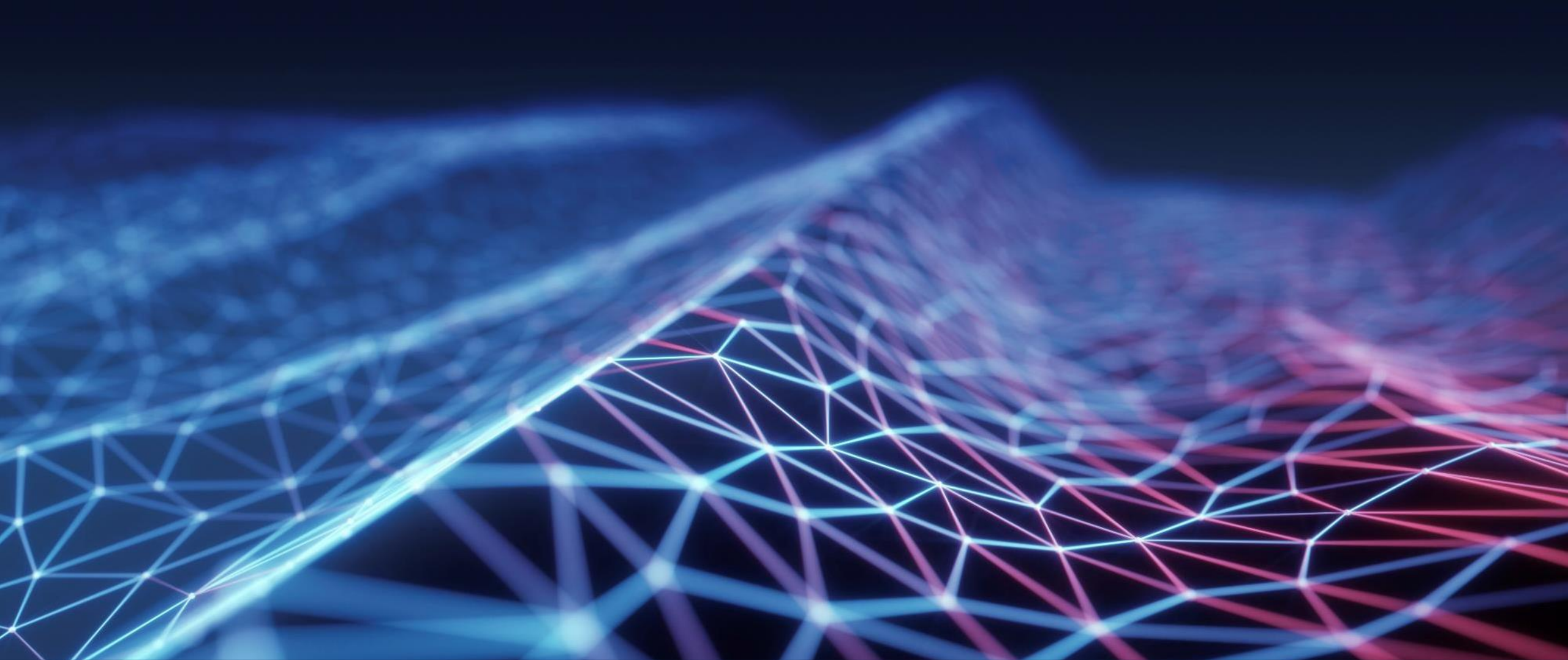
**Big question: How will the organization support this over time?**

## FIVE CONVERSATIONS WITH MY BOSS 25 YEARS AGO

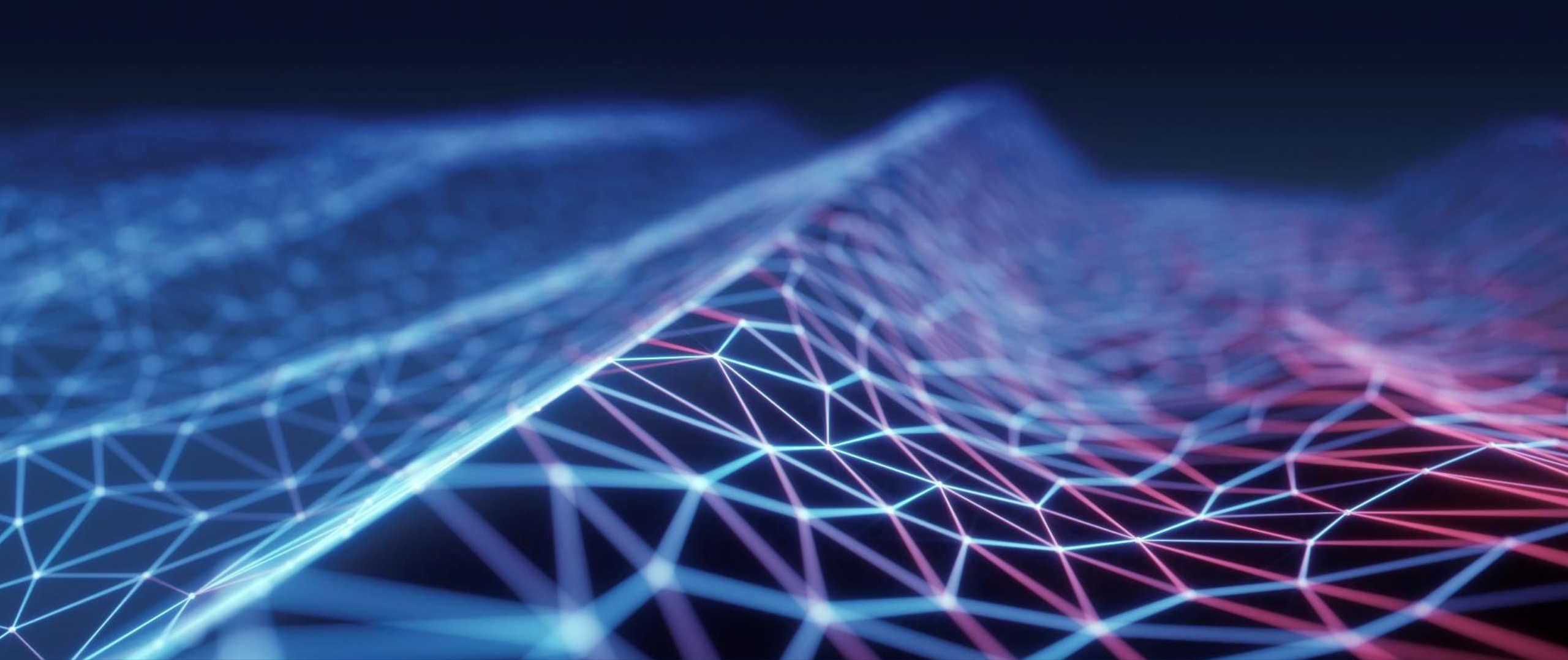
- Me: We could do (*something*) with this great new (*technology/solution.*)
- Boss:

## FIVE CONVERSATIONS WITH MY BOSS 25 YEARS AGO

- Me: We could do (*something*) with this great new (*technology/solution.*)
- Boss: We could do that. Why would we want to do that?



QUESTIONS?



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**THANK YOU!**