



Tech Transfer Hub at Venture Center  
Supported by NBM - BIRAC

# Commercializing New Technology

Lessons from the  
Trenches

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# Agenda

Brief Intro;

Factors for Success/Failure;

S-Curve;

The Process.

# Brief Intro

- Commercialized more than 25+ products;
- Launched 7 startups;
- Several Patents Filed and Received;
- Several Conference and Journal Papers.
- BTech EE – IIT Kharagpur;
- MSEE – University of Minnesota;
- MBA – Old Dominion University.

# Factors for Success

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- The most important factor for success or failure is Timing.



# Examples of Perfect Timing – George Westinghouse (1846-1914)

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# Westinghouse's Impact

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Power generation

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Steam Turbine Generator

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Electrical Technology;

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Aviation;

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Gas Turbines;

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Nuclear Powers;

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Industrial Motors;

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Rail Transit;

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Consumer Electronics.



# Westinghouse's Bet

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**Westinghouse made a bet on  
Alternating Current (AC) as  
opposed to Direct Current (DC)  
and it paid off handsomely.**

# Netscape

- Was it right on time or too early?
  - Founded 1994
  - Defunct 2003
- First company to attempt to capitalize on the Internet.

# Netscape

- **Why did the first mover's advantage not apply here?**
- **It was a one-trick pony.**

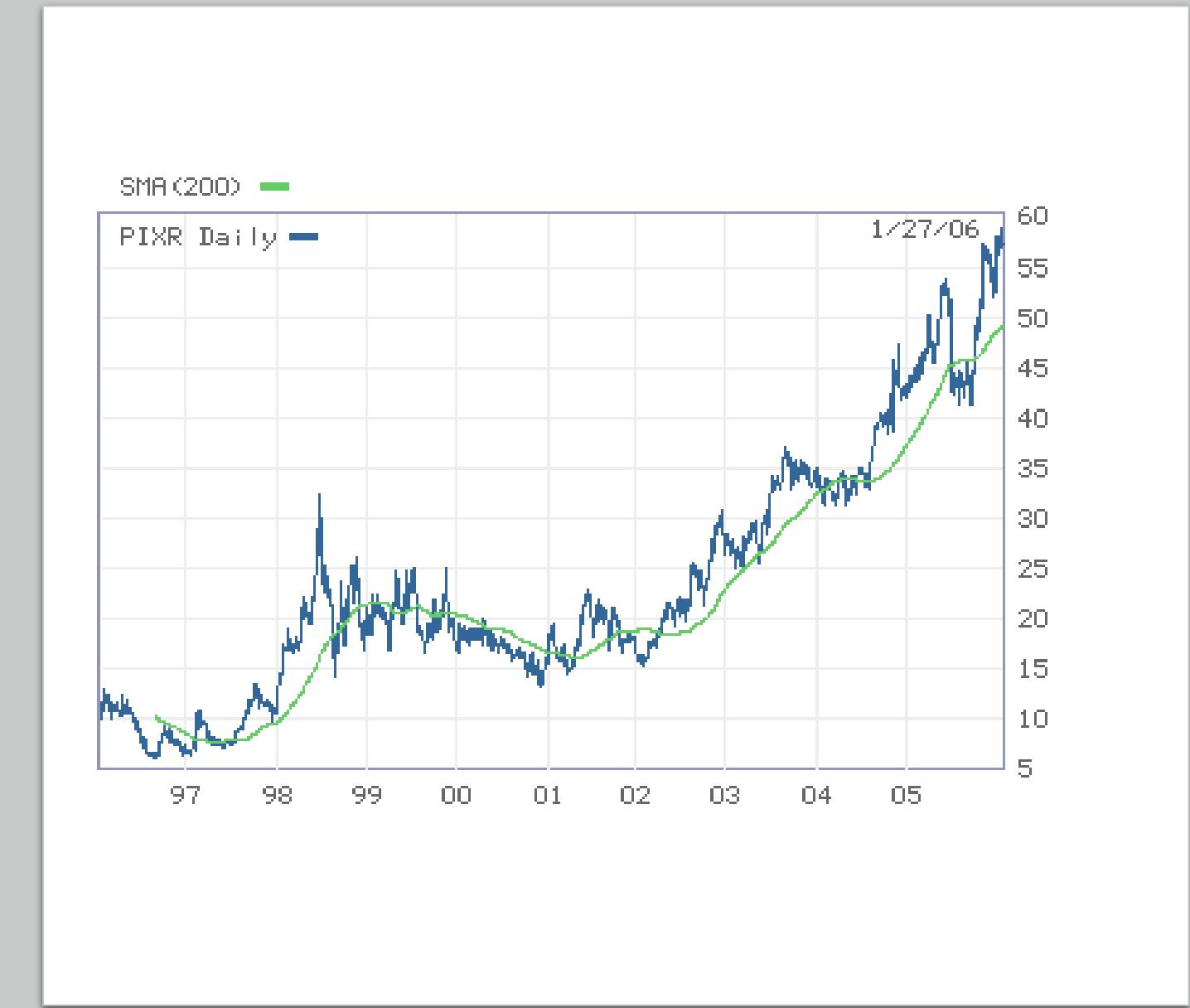


## Examples of Perfect Timing

Google IPO Launch – Aug 19, 2004

# Examples of Perfect Timing

- Pixar
  - Toy Story Launch
    - Nov 19, 1995
  - IPO a Week Later
  - Disney Acquisition
    - Jan 2006

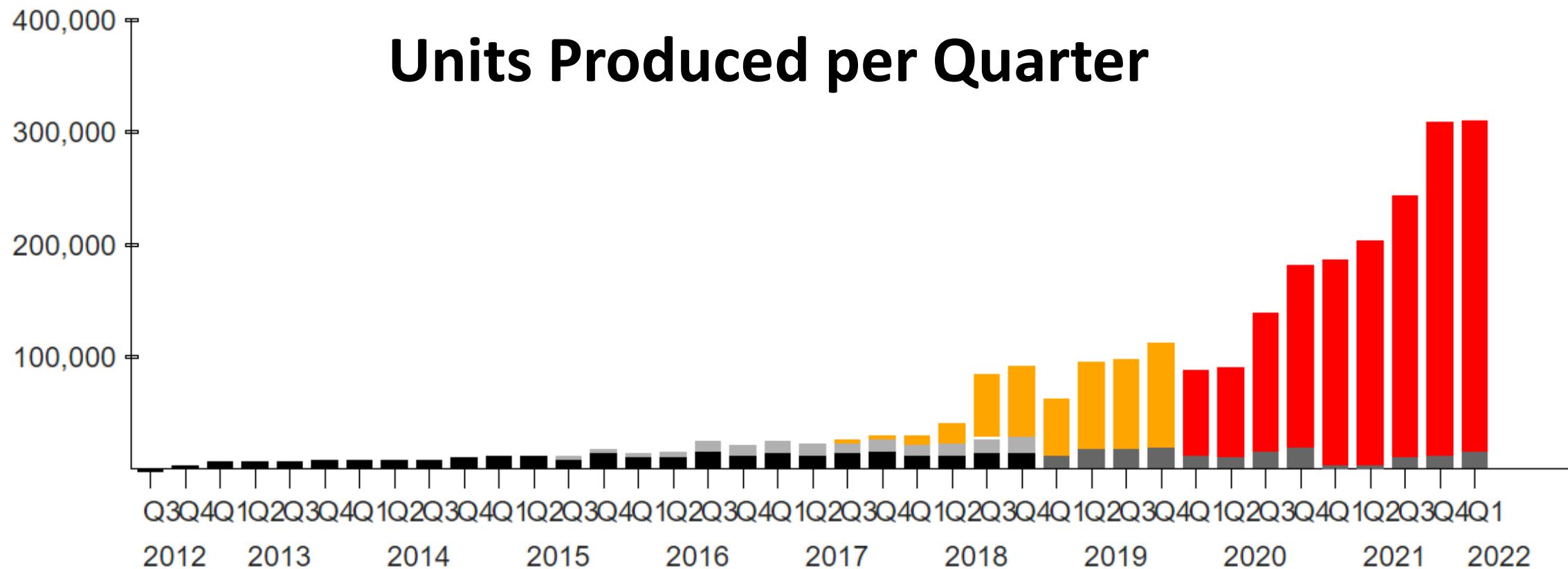


- What would have happened to the value of Pixar if it did not go public a week after Toy Story Launch?

- Ed Catmull: A Steve Jobs IPO Story
- <https://youtu.be/4BNFL-Uakzg>

# Examples of Perfect Timing

# Tesla



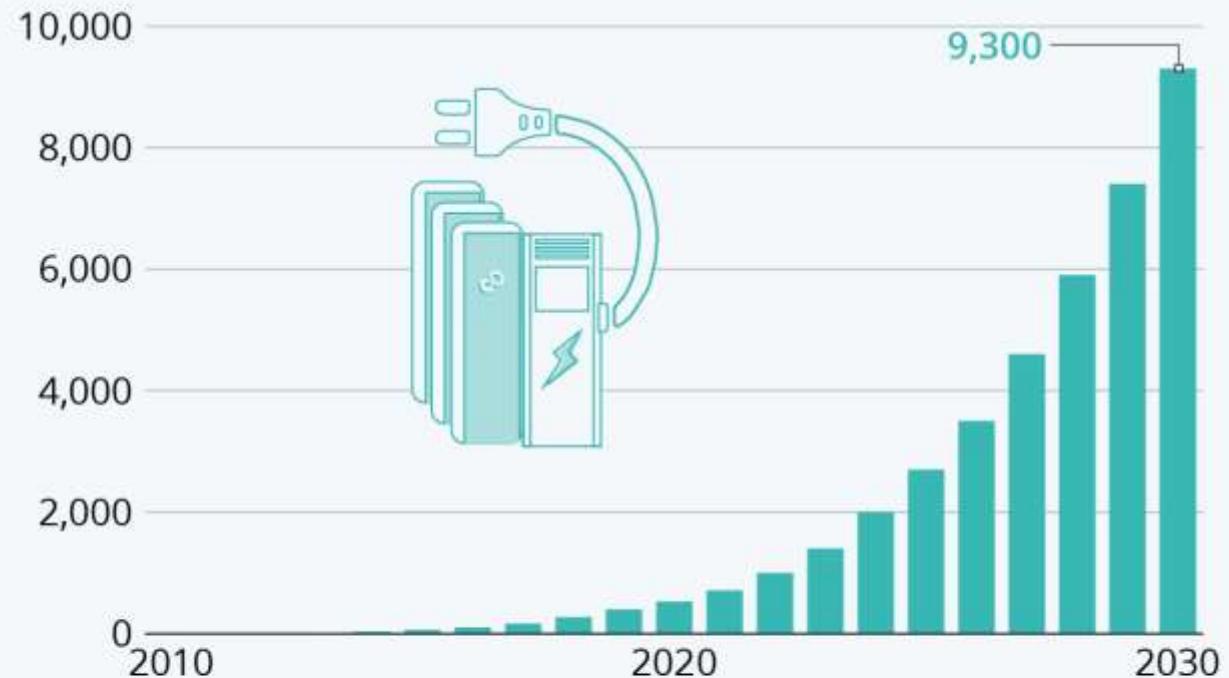


# Tesla's Success

Tesla's success can be attributed to the availability of mature Lithium-Ion Technology.

## High Demand for Lithium-Ion Batteries

Cumulative lithium-ion battery demand for electric vehicle/energy storage applications (in GW hours)



Source: Bloomberg



# Examples of Perfect Timing – iPhone Launch

- **What enabled it - technologies**
  - Lithium-Ion Batteries;
  - Multi-touch screens;
  - Powerful CPUs;
  - Cell phone networks;
  - Web browsers;
  - Scratch proof touch screen glass.

# Examples of Perfect Timing – iPhone Launch

- **What enabled it - Business factors**

- Integration of functions;
  - Phone;
  - music;
  - Personal organizer;
  - Camera;
- Faltering of Other Phone Manufacturers
  - Motorola;
  - Blackberry
  - Etc.

# S-Curves

Characterizing Timing

# S-Curve



Source: <https://innospective.net/why-s-curves-are-probably-the-most-important-concept-in-entrepreneurship/>

# S-Curve and Timing

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S-Curve is prevalent for many processes on this Earth;

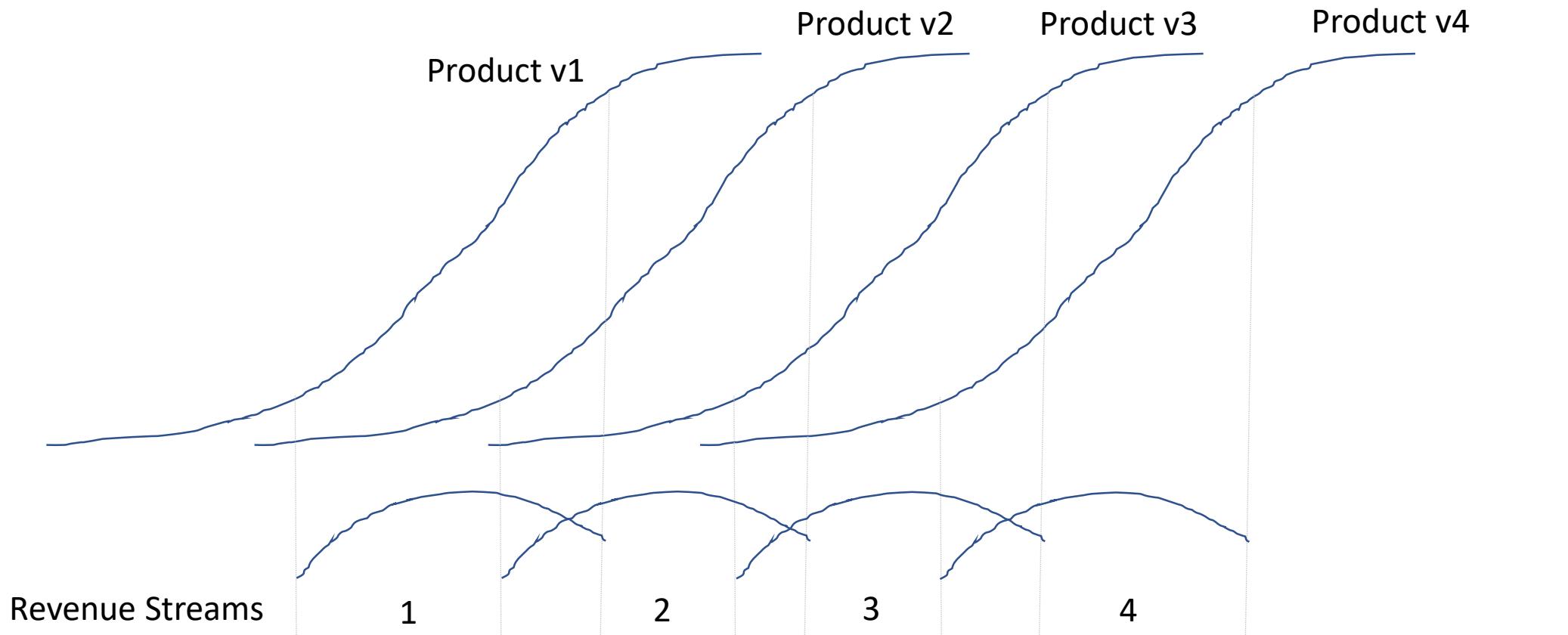
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Identifying your position on the S-Curve can give clues about timing;

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What is the business model for each stage of the S-Curve?

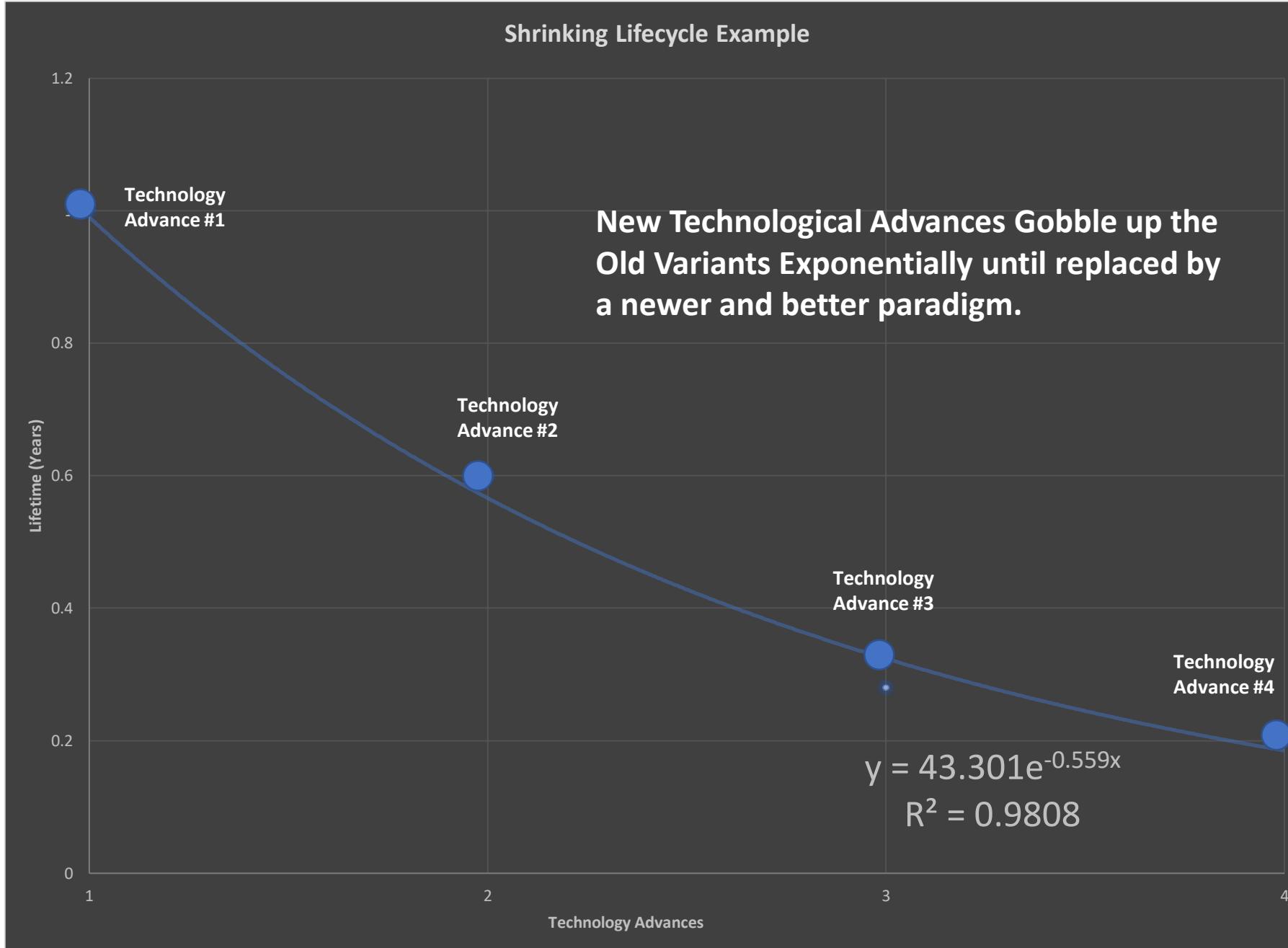
# Overlapping S-Curves

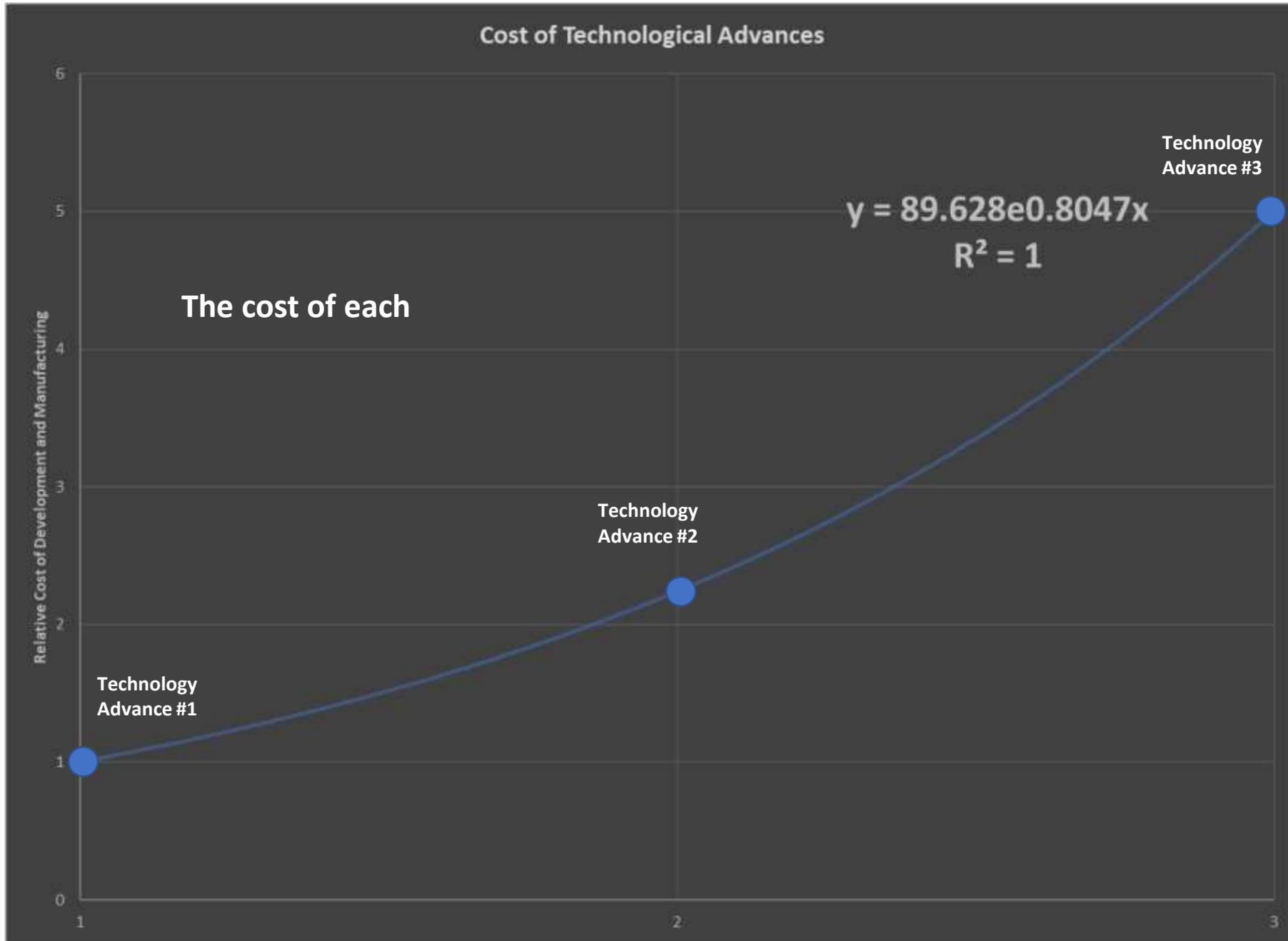


# Lifecycle of a Technology

- Shrinking Lifecycle;

### Shrinking Lifecycle Example



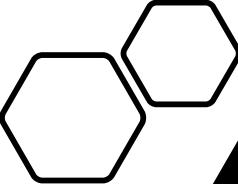


# The Process

- Commercialization must be the top priority;
- Set Measurable Goals;
- Develop Necessary Organization Skills;
- Encourage managers to take aggressive action;
- Relentless attention to improve process;

# Commercialization is Competitiveness

Without repeated  
commercialization,  
longevity and profitability  
are not possible.



# What is the superior commercialization skill?

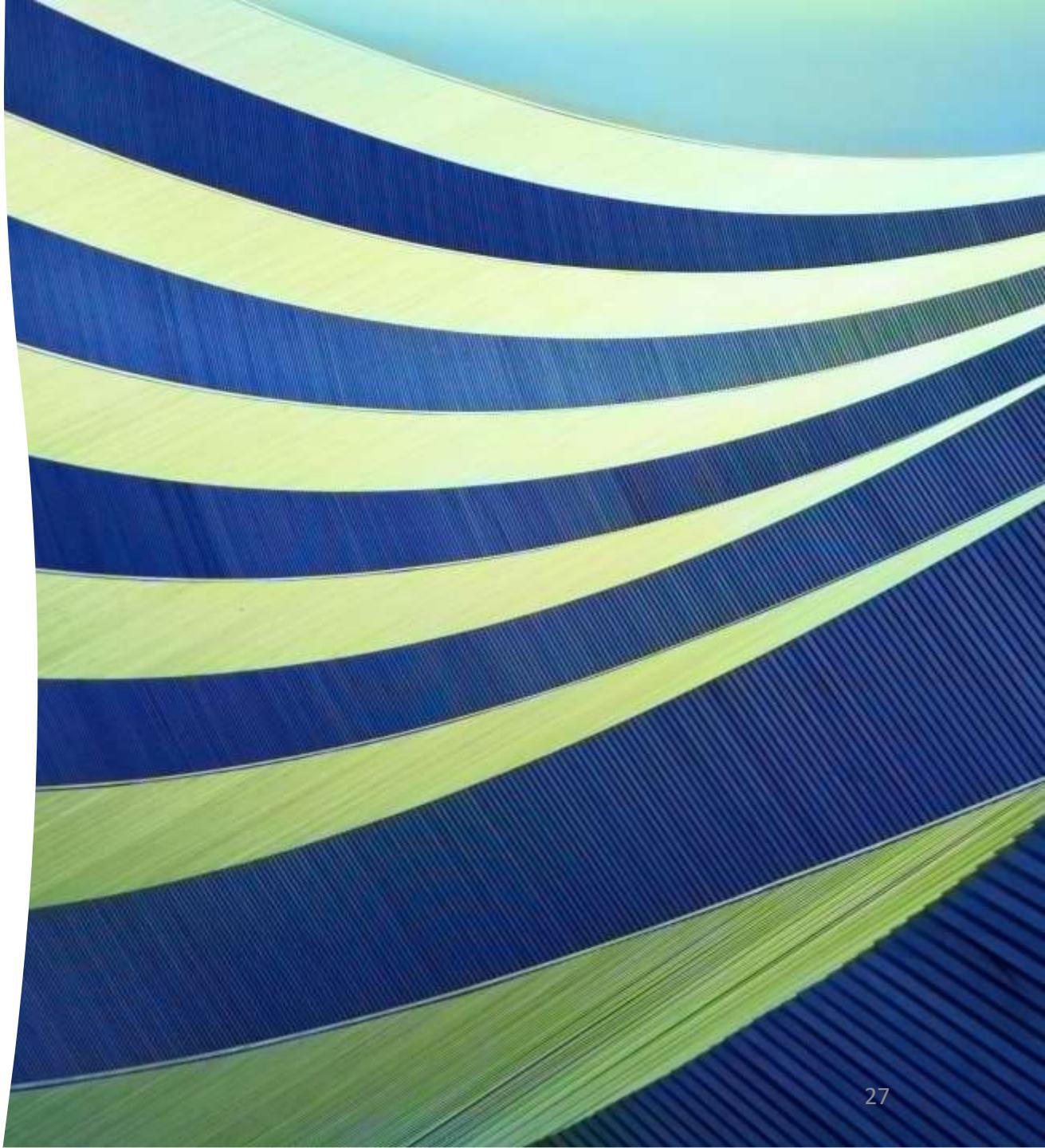
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How quickly can we respond or change market  
demand in our favor?

# Benefits of Commercialization

Higher  
Returns;

Entity  
Longevity.

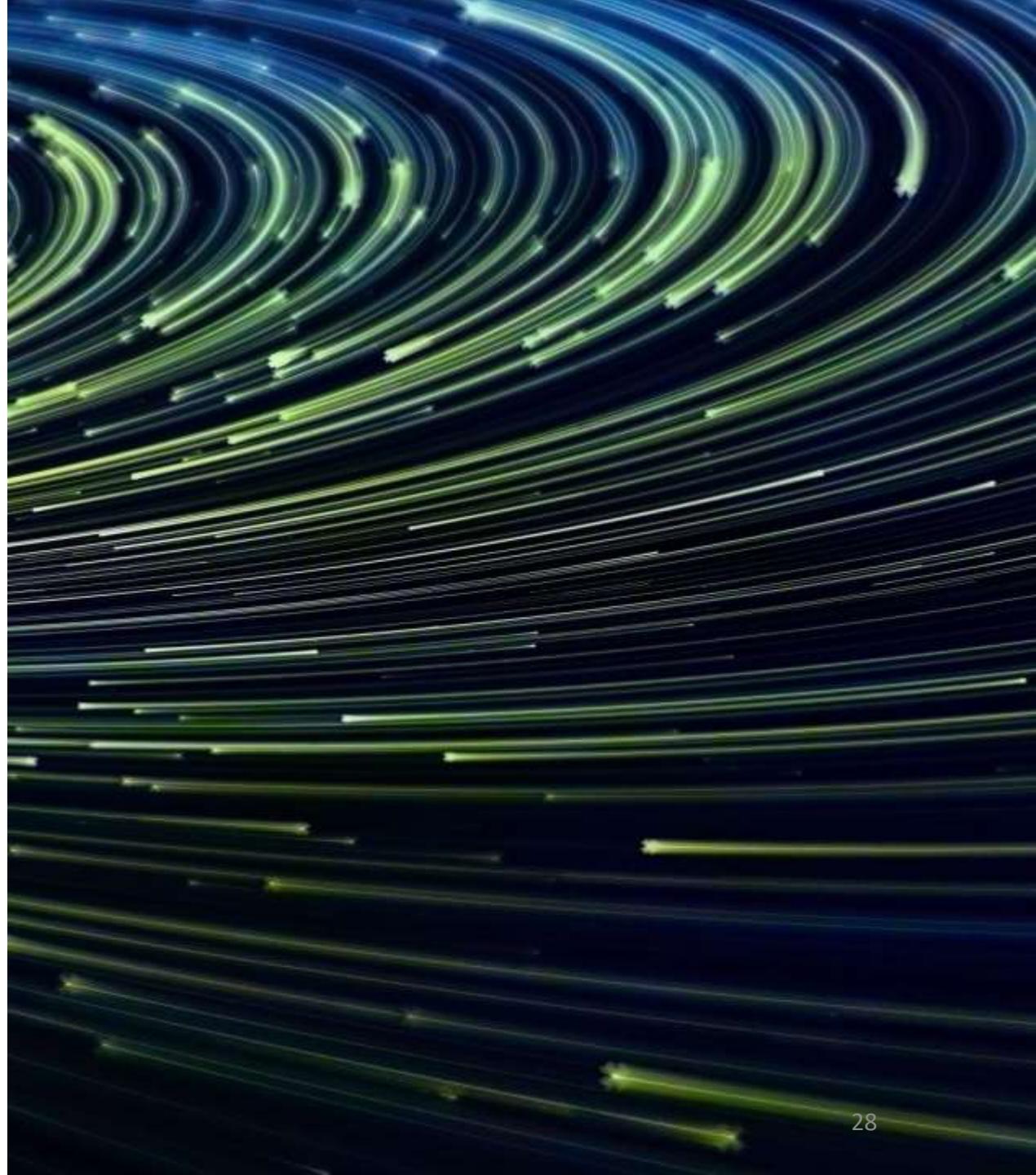


# Challenge to Commercialization - Evolution of the Consumer

Consumers become  
knowledgeable;

Their experiences become more  
refined;

That causes new niches and  
market segments to be launched.



# Time to Market



THE FIRST ENTRANT DOES NOT  
ALWAYS COMMAND A PREMIUM;



FIRST ENTRY AT THE RIGHT TIME  
COMMANDS A PREMIUM;



MIS-TIMED PRODUCT  
INTRODUCTIONS COST THE MOST  
MONEY.

# Range of Markets

## – Spreading Development Costs

Can you enter different industries and market segments thereby leveraging your development costs?



# Measuring Commercialization Capability

Time to Market;

Range of Markets;

Number of Products;

Breadth of  
Technologies;

# Building Commercialization Capability

1

Make Commercialization a Priority;

2

Set Goals and Benchmarks;

3

Build Cross-Functional Skills;

4

Promote Hands-On Management to Speed Actions and Decisions;