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**Spaces Summit** 

# **Never Ever Do a Total Rewrite**

Roy Triesscheijn | Spaces Summit | September 30, 2024

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# Roy Triesscheijn

Tech Lead Engineering Productivity

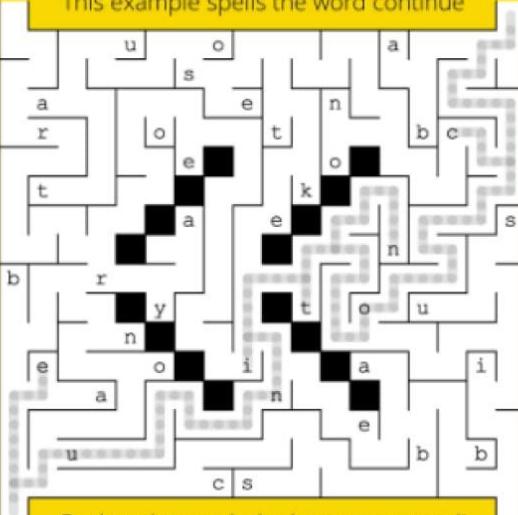
## About me

- Technical leadership, programming, videogames, bouldering, parenting
- Biggest challenge in life: weeks have only 168 hours!

# C++ Programming Puzzle Book

## Solve modern C++ mazewords for a new type of challenge

This example spells the word continue



Backtrack to grab the letters you need!

Plus crosswords to help you understand C++ vocabulary in a fun way

## **For C++ Developers of All Ages**

Path Artist Publishing





GOAL

# **Definition**

**rewrite**

*noun*

The act of building a new application, from scratch, to functionally replace an existing one.

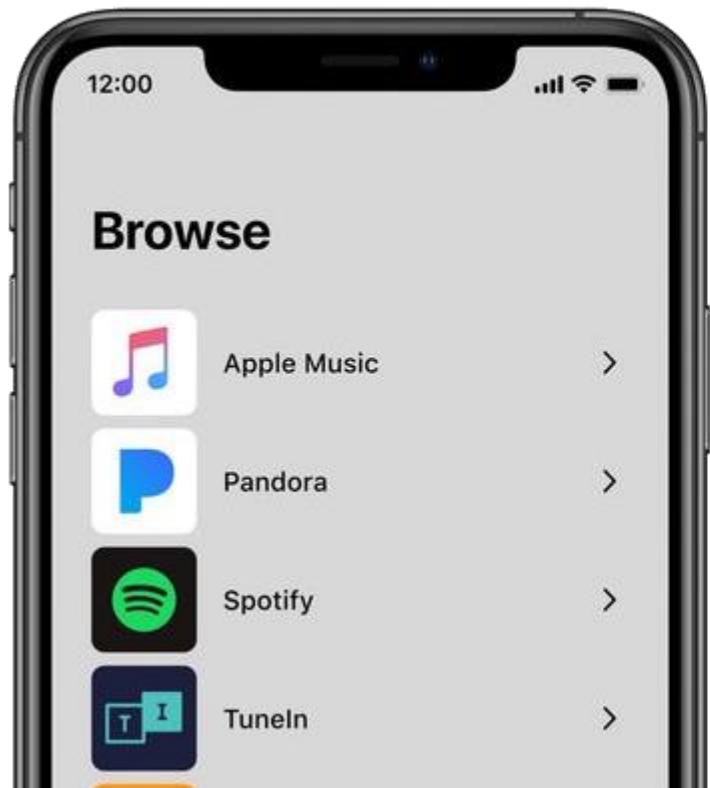
# Rewrites

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**Basecamp**

# SONOS





NETSCAPE®

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# Rewrites

- Increase the maintenance burden
- Cause large monetary damages
- Are an existential threat to a company
- Don't solve the original problem

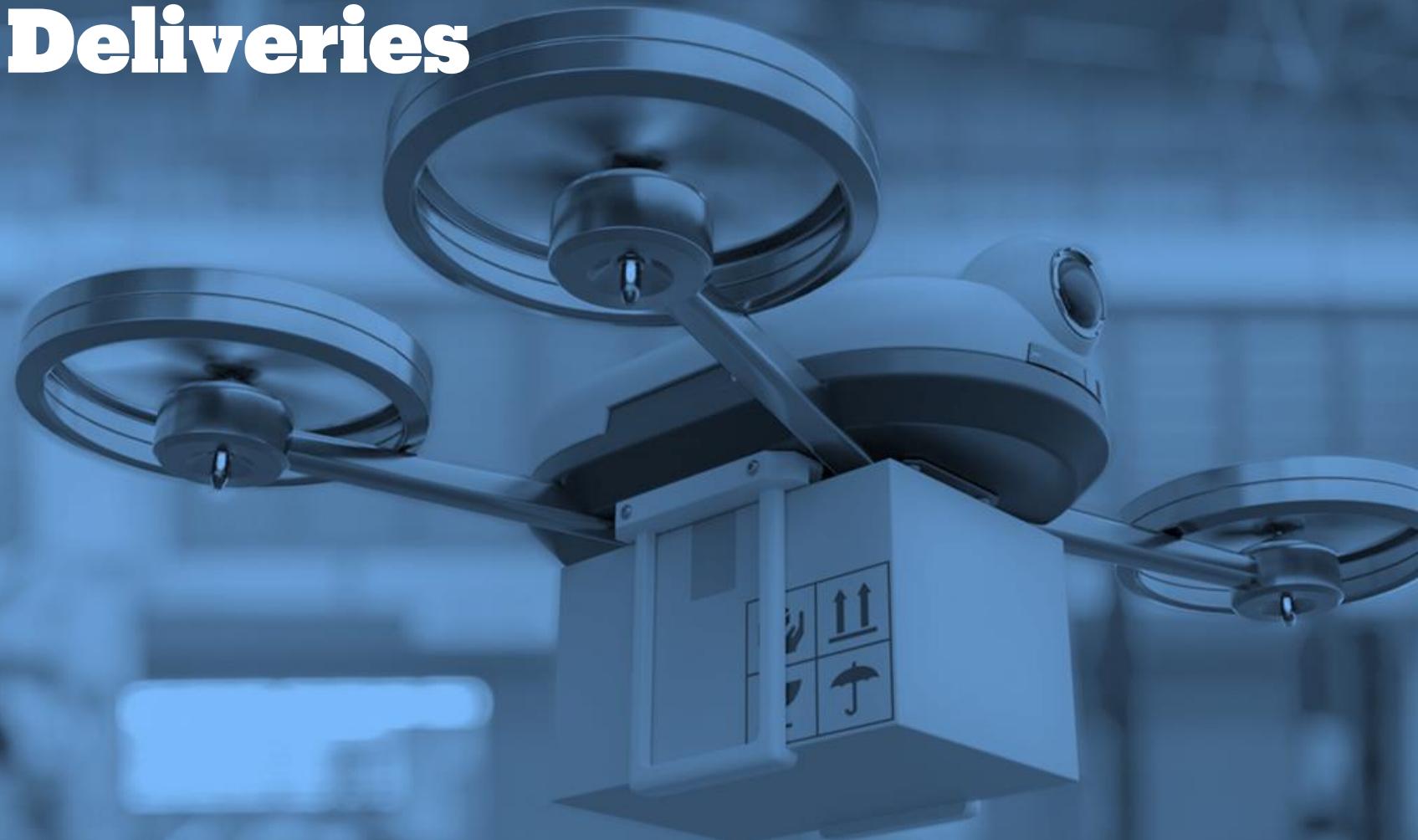


# Anno 2025

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# Autonomous Deliveries

- SPLAT is 50.000 loc

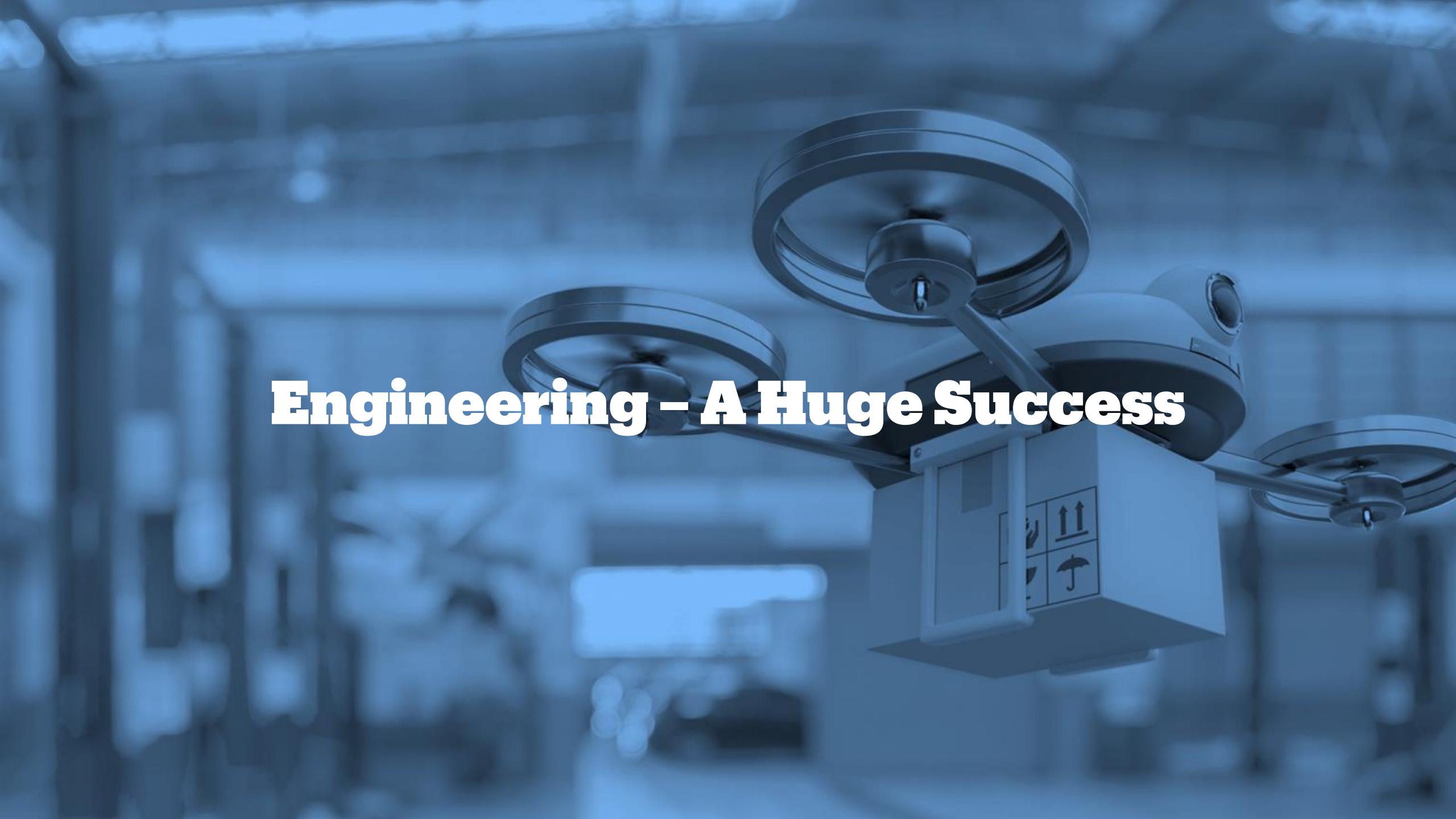


# Anno 2030

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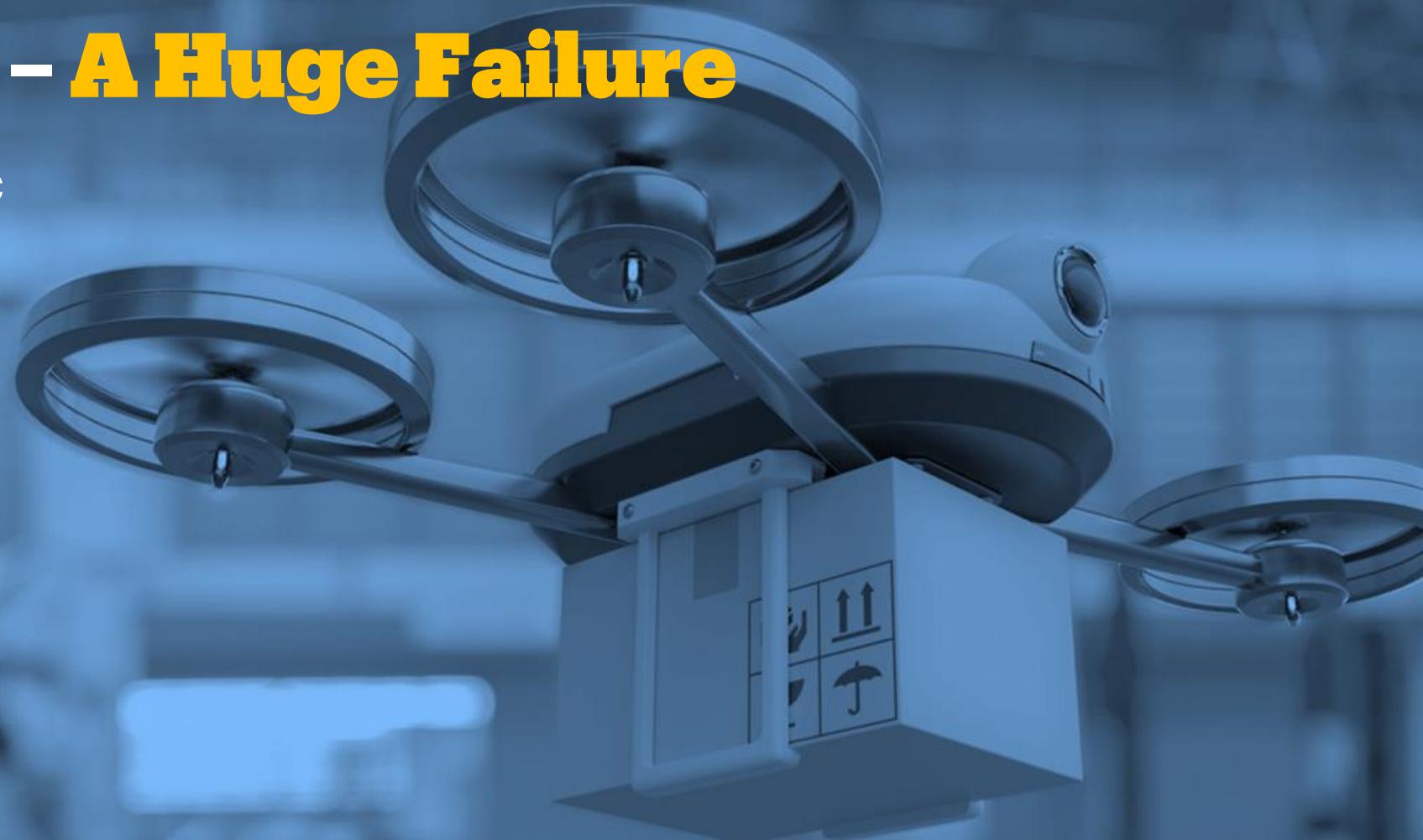
**Business – A Huge Success**



# **Engineering – A Huge Success**

# Engineering - A Huge Failure

- SPLAT is 500.000 loc
- Knowledge gap
- Technical Debt
- Bad practices



# The Rewrite

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# Plan

- New service, PDC
- Scope: 80% of SPLAT, some new features
- Feature freeze

# Timeline

- 6 months, first core feature
- 1 year, satisfy 80% of dependents
- 2 years, decommission SPLAT

# **6 Months Later**

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# **6 Months Later**

- PDC is 10.000 loc
- 0 features completely delivered
- All dependents still connect to SPLAT

# Drone Picker



A photograph of a massive, light blue iceberg floating in dark blue water. The iceberg is partially submerged, with its white, textured surface and deep blue interior visible. In the background, a large, rugged mountain covered in snow and ice rises against a hazy sky.

**Hidden Complexity**

# How To Replicate A Feature?

## How To Replicate A Feature?

# Anno 2037

Place optional summary here

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# Anno 2037

- SPLAT is 700.000 loc
- PDC, Missing Features
- PDC, Technical Depth

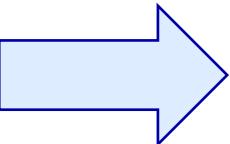


# **Freeze Fallacy**

- Security Vulnerabilities
- Maintenance
- Other Initiatives



# The Second System Effect



# Anno 2040

Place optional summary here



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# The Outcome

- PDC is 600.000 loc
- Knowledge gap
- Technical Debt
- Bad practices

The background of the image is a wide-angle photograph of a vast ocean. The water is a deep blue-green color, with numerous small white-capped waves. In the foreground, there are larger, more powerful waves breaking, creating white foam. The sky above the horizon is clear and light blue.

**Different Tech; Same Organization**

# The Alternative

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# **Reasons for a Rewrite**

As an engineer...

I find it hard to make changes to my application

# Developer Experience



# Identify The Worst Parts



# Isolate



# Ship of Theseus



# Strangler Fig Pattern

A black and white photograph showing a close-up view of a tree trunk, likely a strangler fig, illustrating the 'strangler fig pattern' of growth. The trunk is covered in numerous thick, gnarled aerial roots that have wrapped around it, creating a textured, almost organic lattice. The bark of the trunk appears rough and weathered. In the background, other branches and foliage are visible, though slightly out of focus, emphasizing the central trunk and its root system.



# Recap

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# Dangers of Rewrites

- Increase the maintenance burden
- Cause large monetary damages
- Are an existential threat to a company
- Don't solve the original problem

# Why Rewrites Fail

- Deliver value at the latest possible moment
- Hidden Complexity
- Freeze Fallacy
- Second System Effect
- Changing technology instead of habits

# Benefits of Incremental Changes

- Deliver value at the earliest possible moment
- Divide and Conquer
- Development is slowed, but not stopped
- Focused on where it hurts
- Change habits instead of technology

# Apply This Knowledge Now!

- Accelerate Tech Impact
- Domain Driven Design
- Architecture Decision Records
- Organizational Changes

**Never Ever  
Do a Total Rewrite**

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# Thank you!

