

A yellow Boston Dynamics Spot robot is positioned on the right side of the image, facing left. It is a four-legged robot with a black body and yellow legs. The robot is standing on a concrete floor in an industrial environment. In the background, there are various industrial machines, including a large blue motor and a yellow machine. The floor is made of concrete and has some yellow markings. The lighting is bright, and the overall scene is industrial.

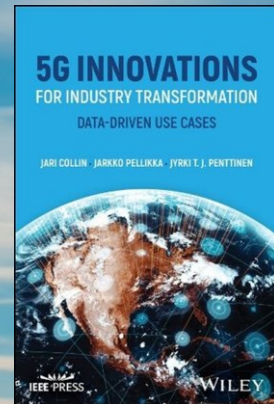
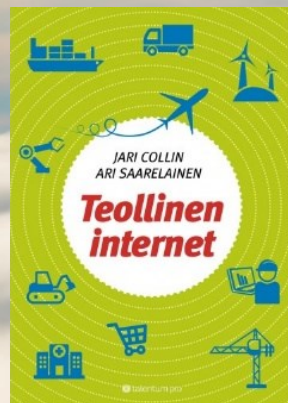
INDUSTRIAL METAVERSE USE CASES AND CAPABILITIES (IMUCC)

Co-research Plan

"Sharing best practices between industry ecosystems"

*Prof. Jari Collin
October 30, 2025*

Industry 4.0 research progress in 10+ years



**Industrial
Internet**

**Industrial
5G**

**Industrial
Metaverse**

A!

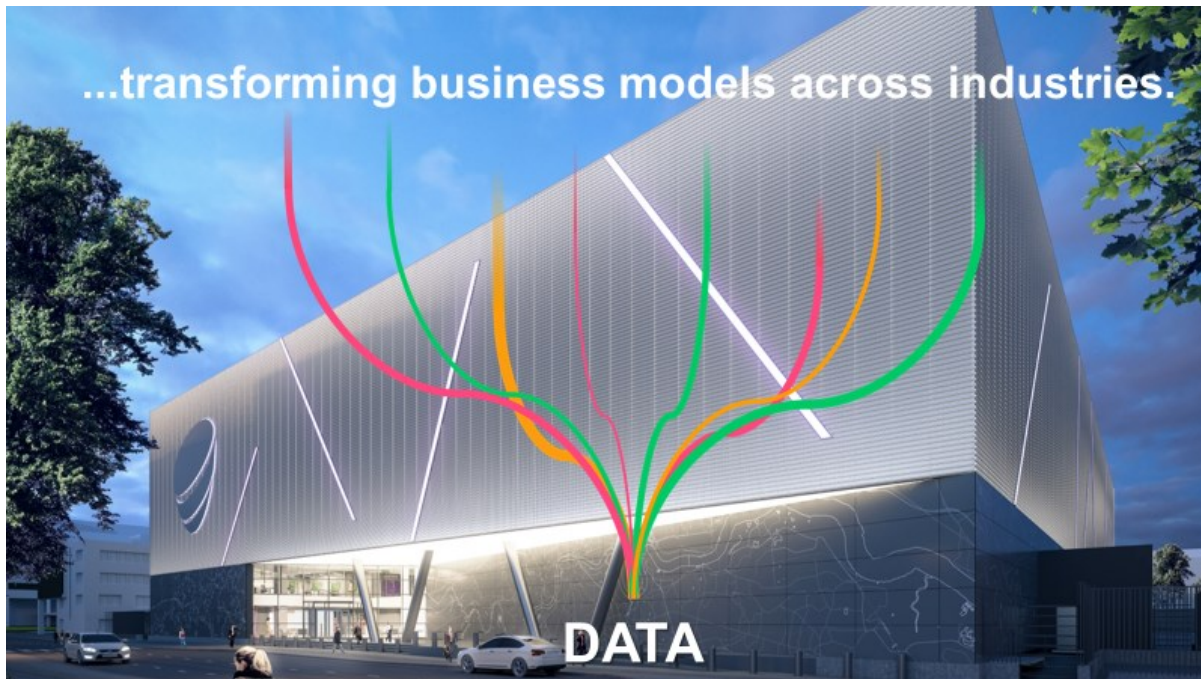
Data sharing boosts new cloud-based services...



Key characteristics of an industrial metaverse solution



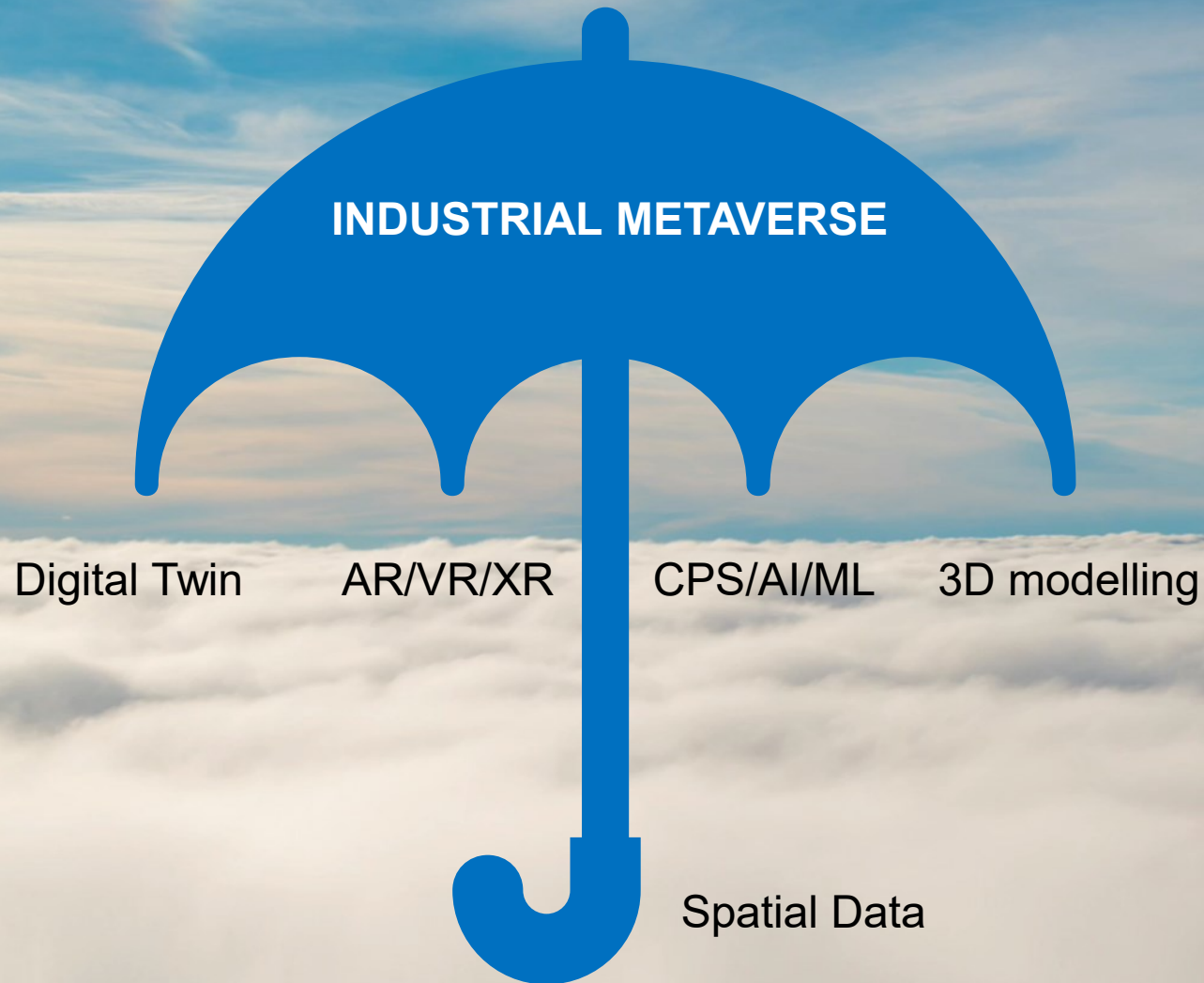
...transforming business models across industries.



Technology is no longer a bottleneck – but it consists of pieces that must work together



The umbrella of Industrial Metaverse...



The industrial metaverse is a physical-digital fusion and human augmentation for industrial applications; this includes digital representations of physical industrial environments, systems, processes, assets, and spaces that participants can control, monitor, and interact with. (Nokia Veturi -program)

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Research problem and questions

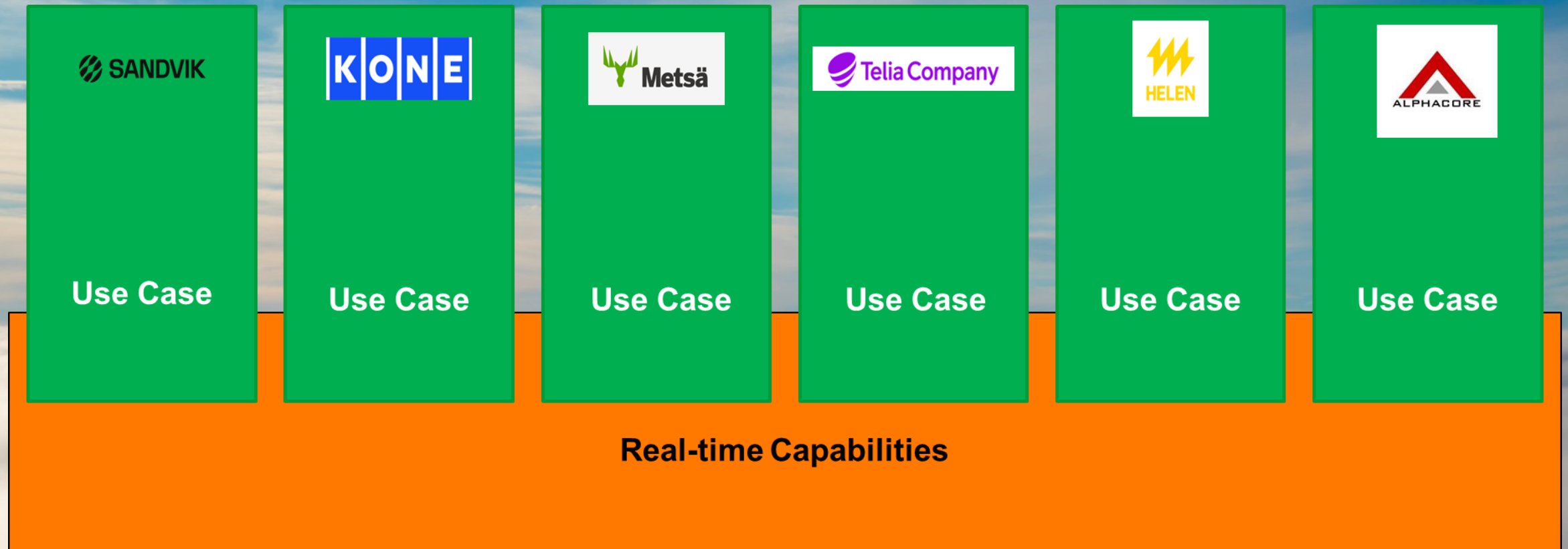
What are the key success factors in implementing sustainable and secure capabilities for industrial metaverse?

The problem is broken down into following questions:

1. What are the **main pre-requisites for the implementation** of industrial metaverse capabilities?
2. What kind of **use cases** and tangible **benefits** the industrial metaverse can bring for enterprises?
3. How should **the implementation** be aligned with the ongoing digitalization of the **industry ecosystem**?

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Case companies



A!

Case Sandvik



Case Metsä Group



Case KONE



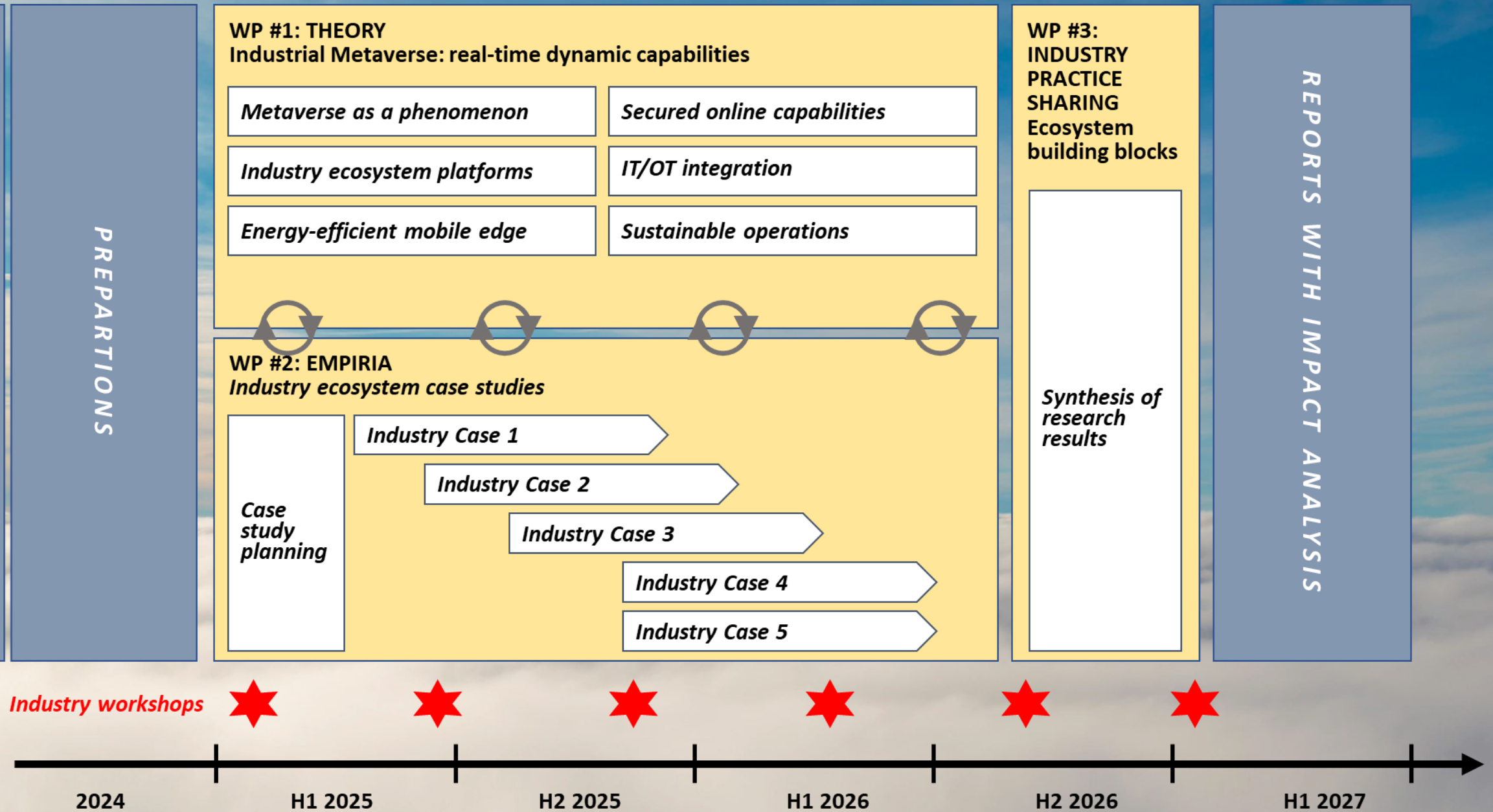
Case Telia



Case Helen



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A wide-angle photograph of a sky filled with soft, white clouds. A faint rainbow is visible in the upper left quadrant. The text "THANK YOU!" is centered in the middle of the image.

THANK YOU!

A!