

## How Thales uses AI to accelerate adoption in critical systems

World Summit on AI 2019

April 10, 2019

Freddy Lecue, Chief AI Scientist  
[@freddylecue](#)





Gary Chavez added a photo you might ...  
be in.  
about a minute ago • 👤











# Markets we serve



Aerospace



Space



Ground Transportation



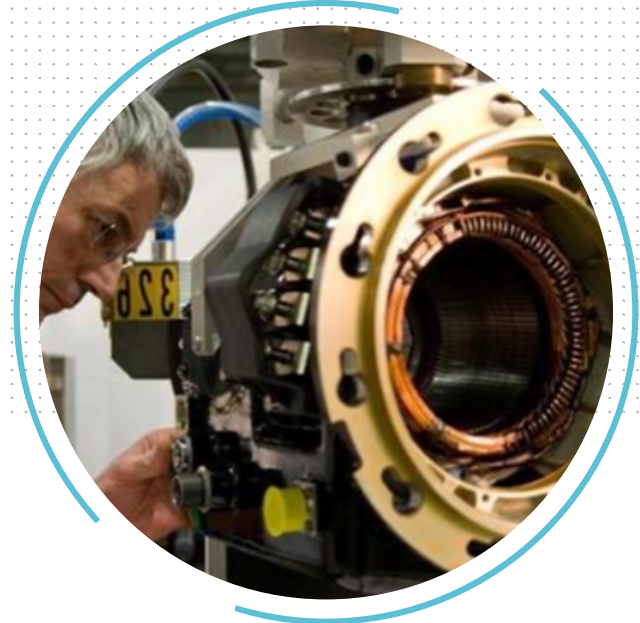
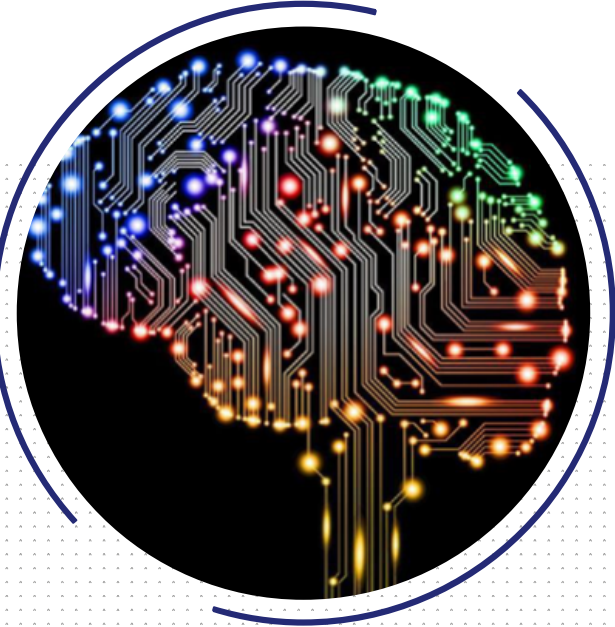
Defence



Security

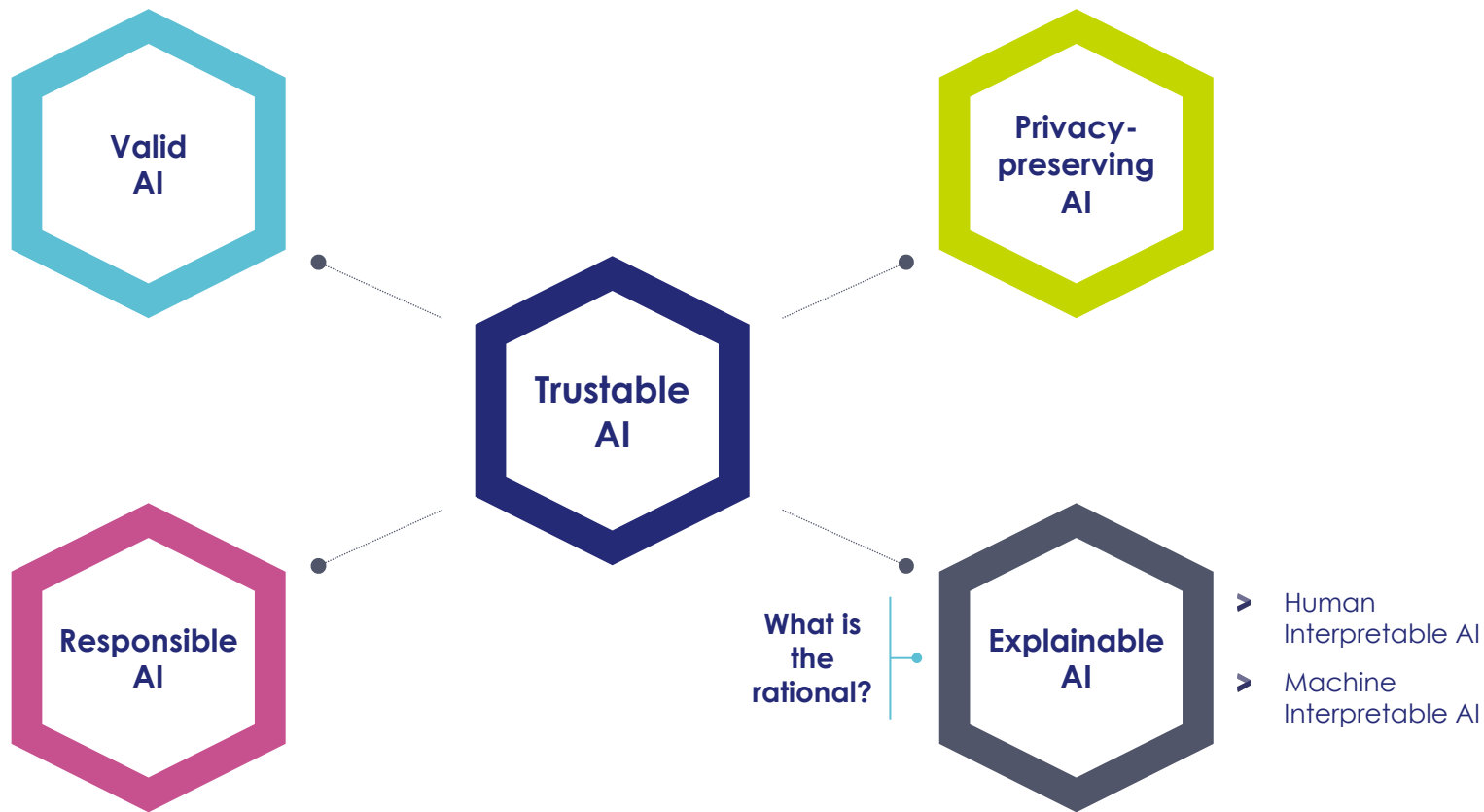
**Trusted Partner** For A Safer World

# What aspects are core for AI adoption in AI industry?





# AI Adoption: Requirements







# XAI in Canada: An instance of a Scientific eXplainable AI project

## DEEL (Dependable Explainable Learning) Project 2019-2024

With support of



Industrial partners

**THALES**

And 3 aerospace partners

Academic partners



### Certificability

- Structural warranties
- Risk auto evaluation
- External audit



# ***“How to explain transfer learning with appropriate knowledge representation?”***

Proceedings of the Sixteenth International Conference on Principles of Knowledge Representation and Reasoning (KR 2018)

## **Knowledge-Based Transfer Learning Explanation**

### **Jiaoyan Chen**

Department of Computer Science  
University of Oxford, UK

### **Jeff Z. Pan**

Department of Computer Science  
University of Aberdeen, UK

### **Huajun Chen**

College of Computer Science, Zhejiang University, China  
Alibaba-Zhejiang University Frontier Technology Research Center

### **Freddy Lecue**

INRIA, France  
Accenture Labs, Ireland

### **Ian Horrocks**

Department of Computer Science  
University of Oxford, UK



# Human -in-the- Loop

