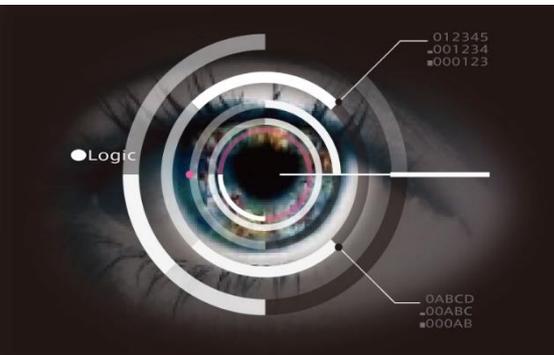




Humans and AI: Evolving Together

December 20, 2019

New Energy and Industrial Technology Development Organization
Robotics / AI Division



The Future of Human-AI Interaction

- We want to make daily life as well as manufacturing more efficient and more comfortable
- We want to make the best business choices, even when we don't have time to research topics fully
- We want an AI companion to propose better ways of doing things that we haven't even thought of

We want a partner that understands what's going on around them and can help us...



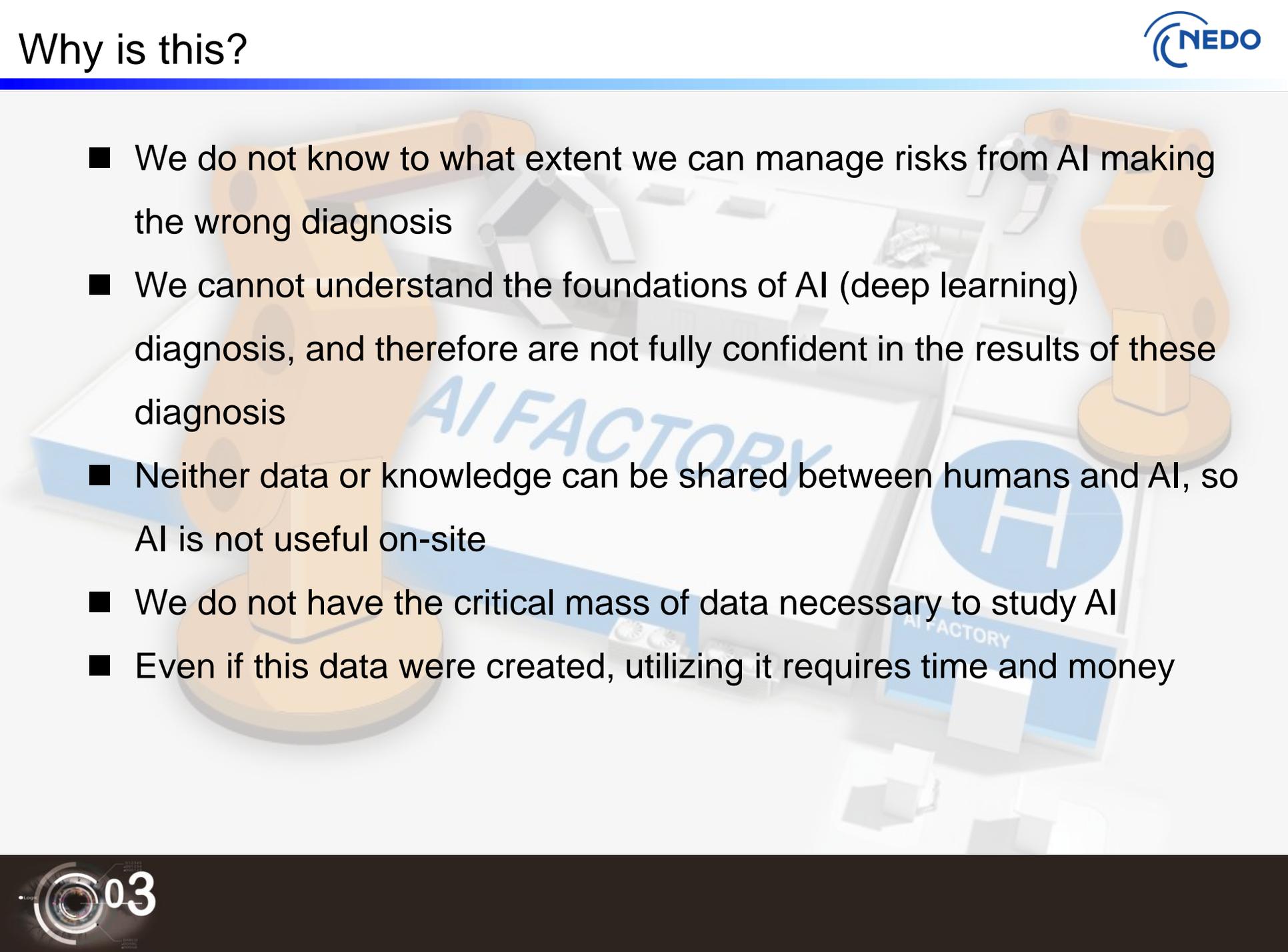
AI technology enables this future

However...

- “AI” has become a buzzword, but has the concept penetrated as much as we think?
- What can we use it for? The truth is, we don’t really know
- Although it has been used experimentally, it hasn’t been fully integrated into the business sphere
- We don’t know the extent to which we can trust diagnoses made by AI
(Via deep learning)

Right now, AI has only been used in areas where it can make a wrong diagnosis without causing too many problems, or where it can be used for partial analysis of large amounts of data

Why is this?

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- The background features a stylized illustration of an 'AI FACTORY'. It shows a white building with blue accents and two orange robotic arms. The text 'AI FACTORY' is written in large, blue, semi-transparent letters across the building. A blue circle with a white 'H' is also visible on the right side of the building.
- We do not know to what extent we can manage risks from AI making the wrong diagnosis
 - We cannot understand the foundations of AI (deep learning) diagnosis, and therefore are not fully confident in the results of these diagnosis
 - Neither data or knowledge can be shared between humans and AI, so AI is not useful on-site
 - We do not have the critical mass of data necessary to study AI
 - Even if this data were created, utilizing it requires time and money

And so...

Doing direct quality evaluation / management for AI

Understanding the fundamentals of AI diagnoses

Alternatively,

Humans being able to predict the diagnosis of an AI

AI reading human feelings and intentions

Humans and AI being able to learn together

Building a high-precision AI system even with little data



Humans and AI synergizing their respective specialties

If humans and AI could synergize their respective specialties...

Observations from the examination

Explainability of the diagnosis

Reliability of the diagnosis

AI system

Relatively inexperienced doctor

Patient

Converting know-how into **knowledge**

Patient's **questions**

Humans and AI learning together ⇒ Evolving together

