



International Federation
for IT and Travel & Tourism



UNIVERSITY OF
SURREY

Intelligent Automation for Tomorrow's Tourism

Iis Tussyadiah
University of Surrey

12 October 2018 | Malaga, Spain
TURITEC Conference



Agenda

Digital Transformation

Intelligent Automation

Smart Travel and Smart Destination

Creating a Sustainable Future





UNIVERSITY OF
SURREY

ifitt

Digital Transformation



Digital Transformation

Innovation

Business Processes: Efficiency

Tourist Experiences

Access and Inclusion





Key Technology Enablers

AI and Robotics

Blockchain

IoT

LBS

AR/VR





AI

5

6

0

R

airberlin.com

THAI

BRITISH AIRWAYS

KLM

UNITED

American Airlines

DELTA

AIRFRANCE

C

SINGAPORE AIRLINES

QATAR AIRWAYS القطرية

Emirates

QANTAS

Alt

Artificial Intelligence

“Ascription of human qualities to machines...”

	Human Performance	Rationality
Thought Process or Reasoning	Systems that think like humans.	Systems that think rationally.
Behavior	Systems that act like humans.	Systems that act rationally.





Artificial Intelligence

Natural Language Processing

Knowledge Representation

Automated Reasoning

Machine Learning

Computer Vision

Robotics

Russell & Norvig, 2003

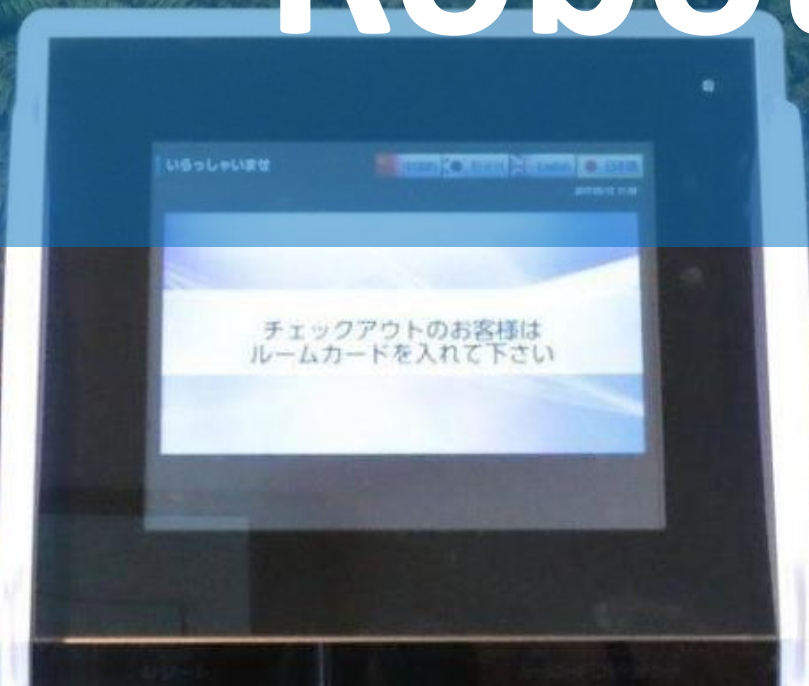




Henn na Hotel

Henn na Hotel

Robotics



AI & Robotics Applications

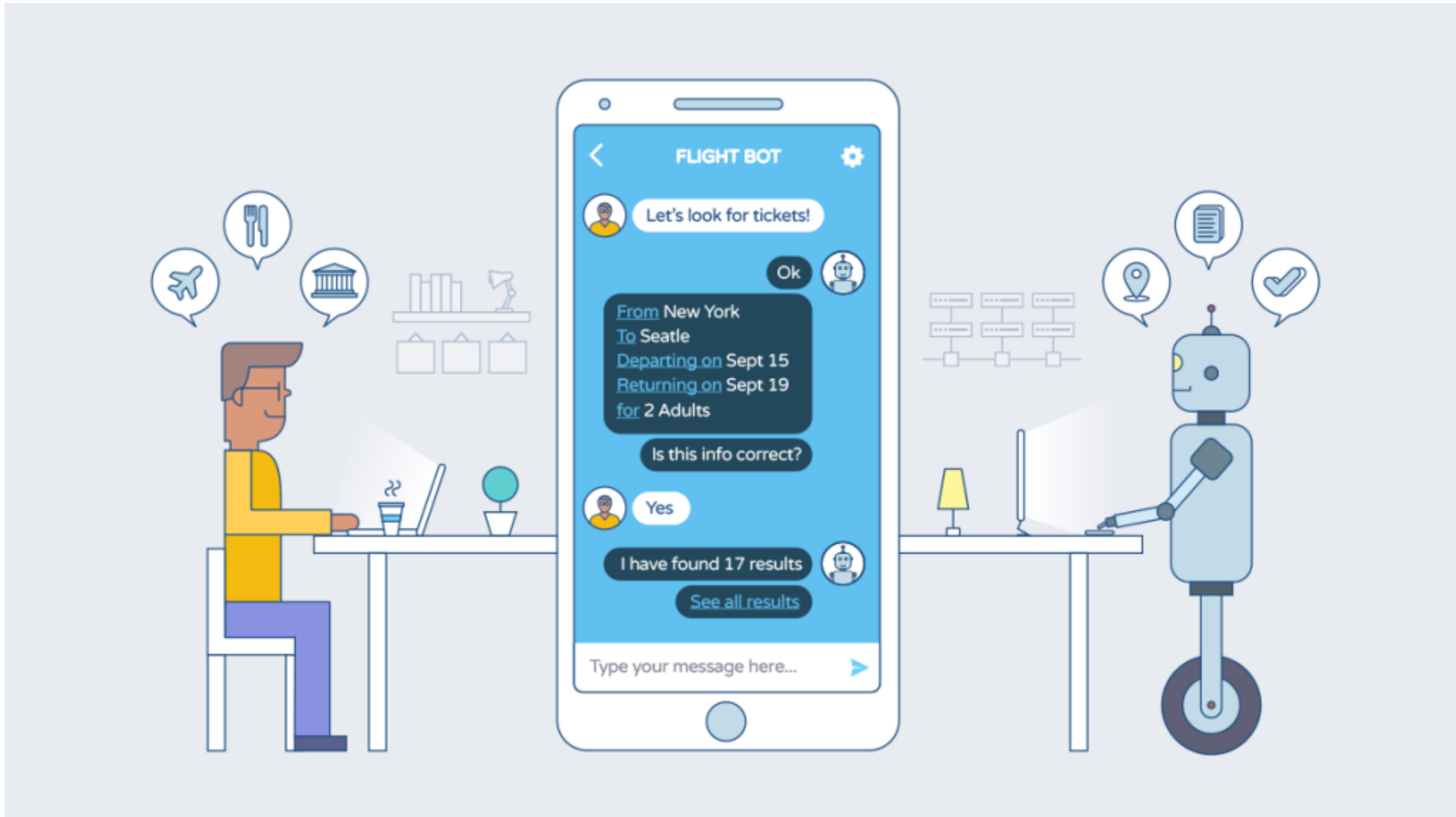
Self-Driving Vehicles

Chatbots

Service Robotics

AI-powered Systems for Business Operations







UNIVERSITY OF
SURREY

ifitt





UNIVERSITY OF
SURREY

ifitt



AI & Robotics Applications

- Starwood's "Project Jetson" (Siri-powered rooms)
- Edwardian Hotels' "Edward" (Chatbot)
- Skype Translate (real-time translation)
- EasyJet's Revenue Management AI
- WayBlazer: Watson-powered travel recommendation
- Robot Concierge



Intelligent Automation

Self-service

Real-time, on-the-spot, response

Powerful predictive analytics and
personalization





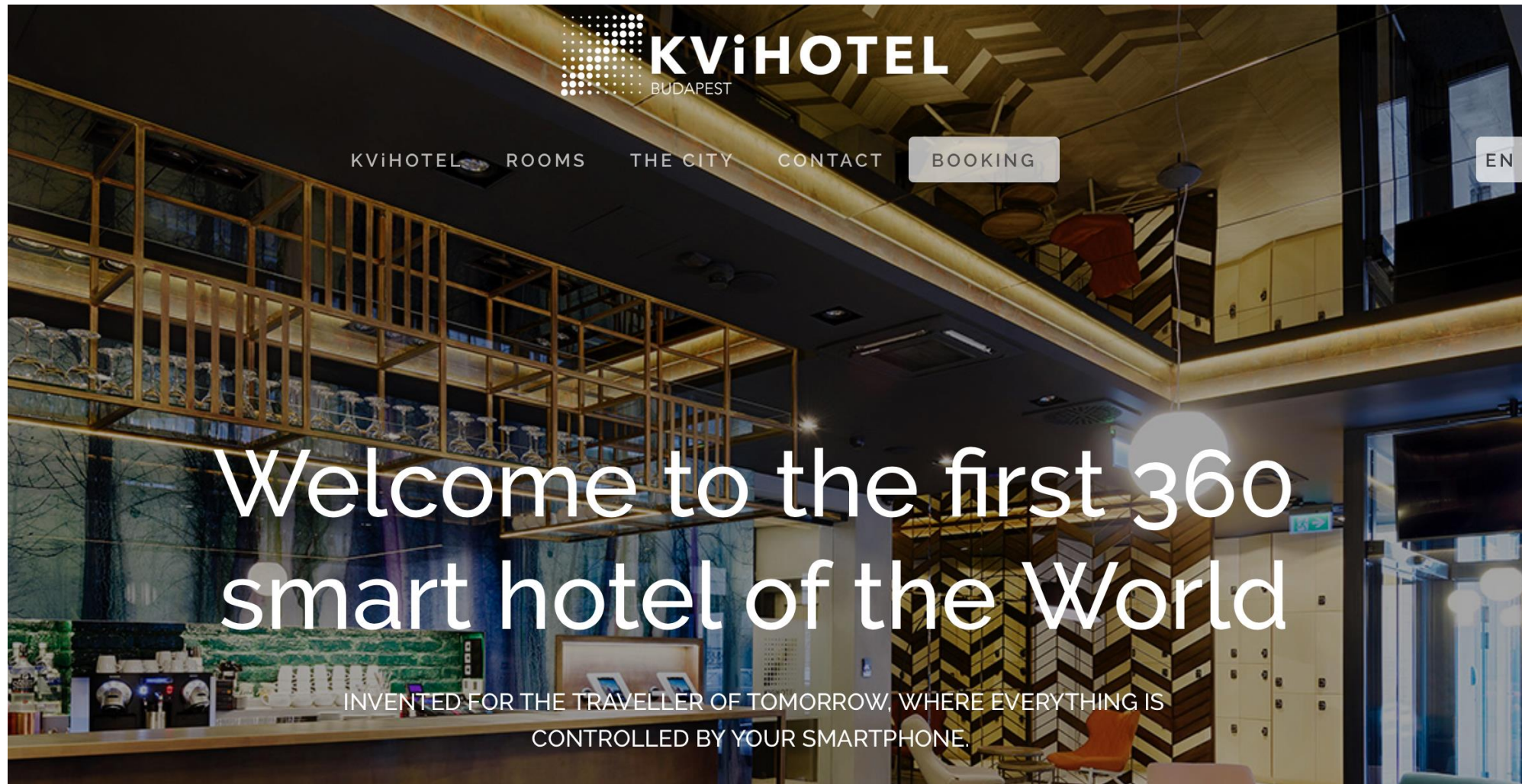
UNIVERSITY OF
SURREY

ifitt

Self-Service



Self-Service



Implications

Service Quality



~~Service Personnel~~



Human – Computer Interaction (HCI)



User Experience (UX)



Implications

Quality of Experiences

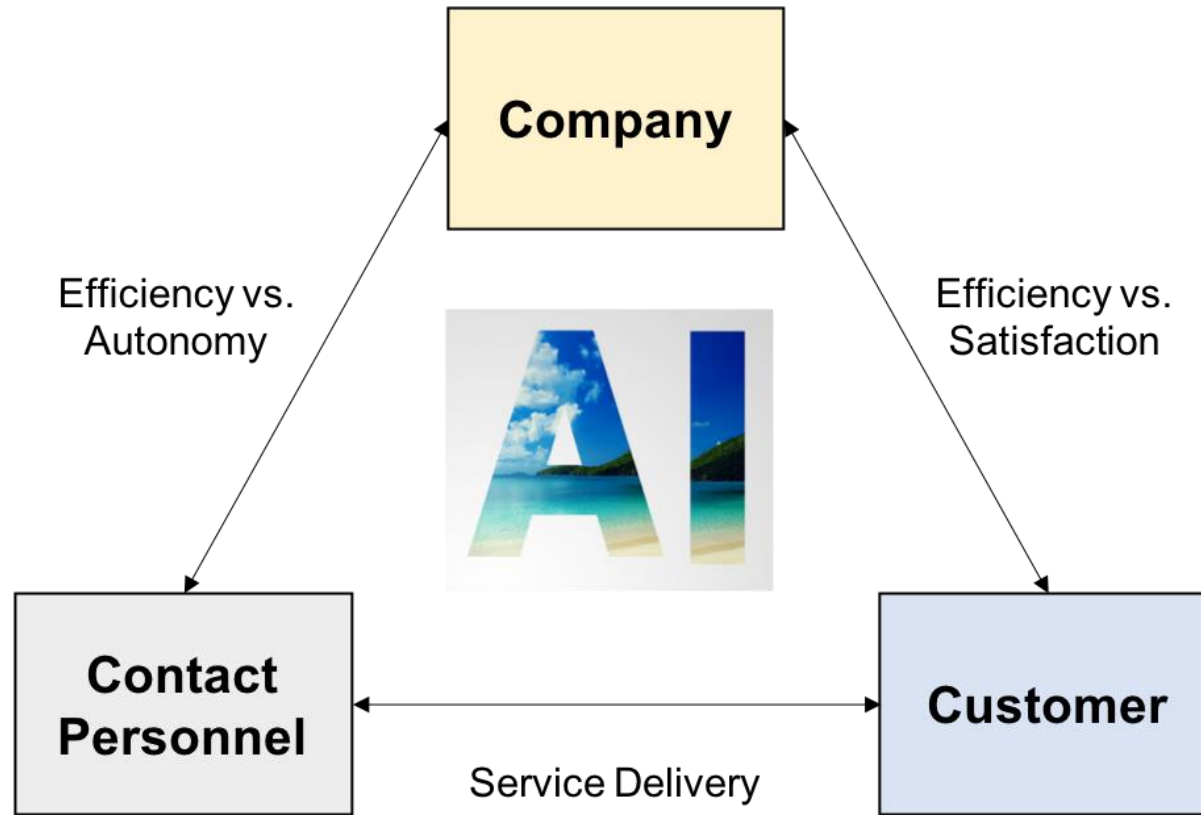
Control, Liabilities

Disuse, Misuse, Abuse

Inclusion?



Tourism Encounter





Tourism Encounter





Tourism Encounter



Implications

Roles of Employees

Substitution vs Augmentation

Provision of Decent Work



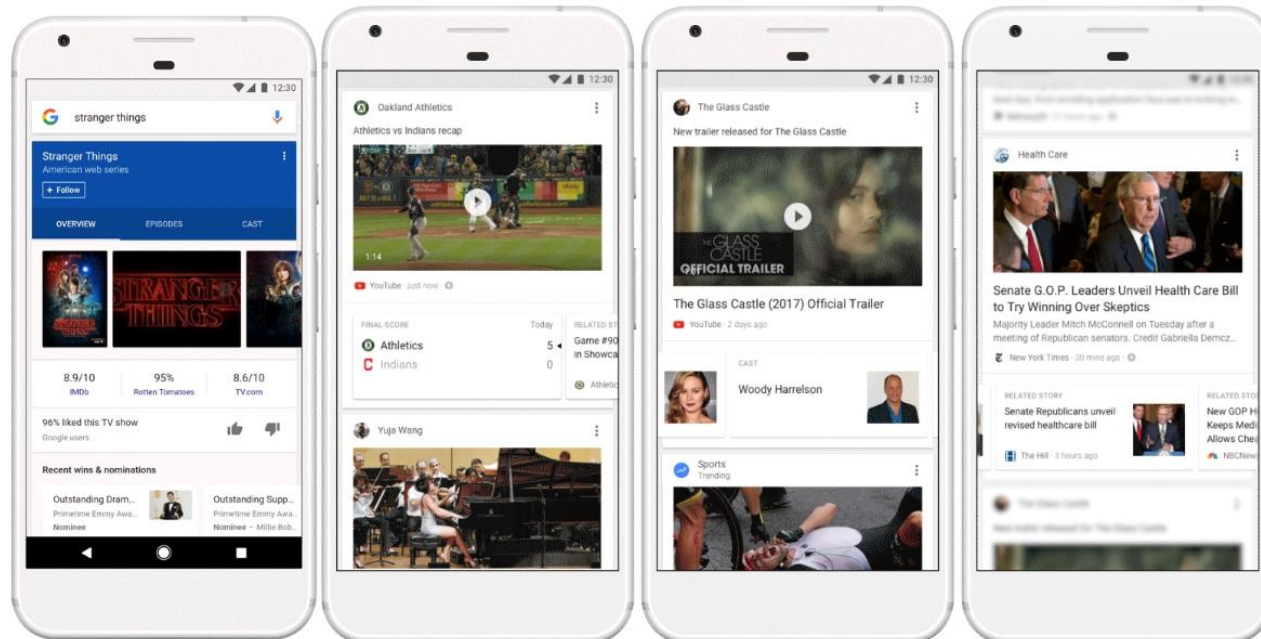
Predictive/Prescriptive Analytics

Personalization



Implications

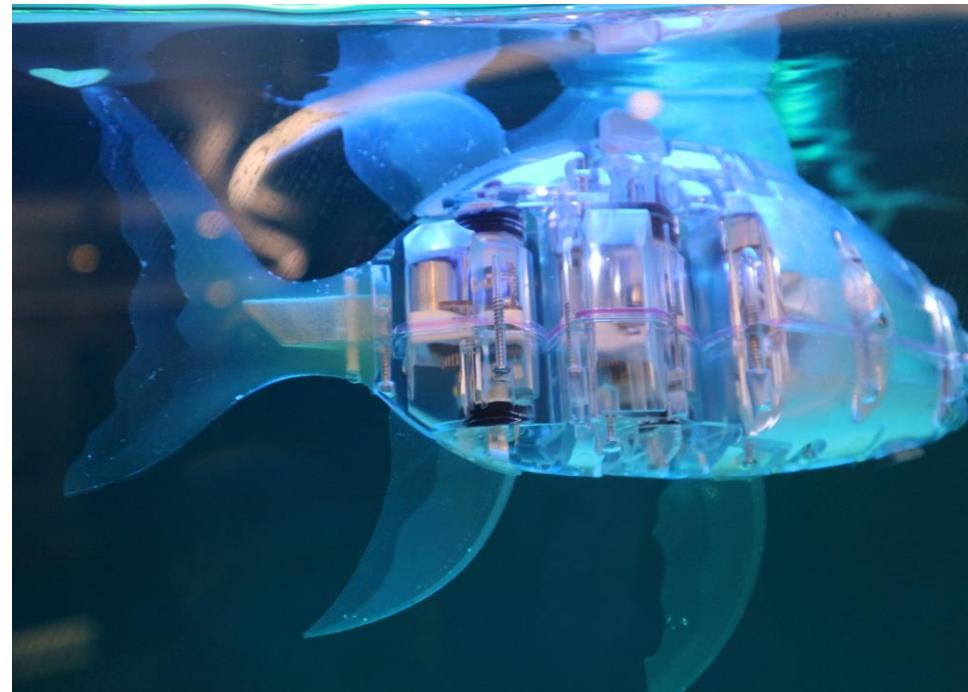
Business: From Start-Up to Scale-Up
Personal data management





Tomorrow's Tourism

A sustainable future: a possibility?





AI: Key Priorities

Economic and social impacts of AI

Ethical and legal issues around AI

Verification and validation

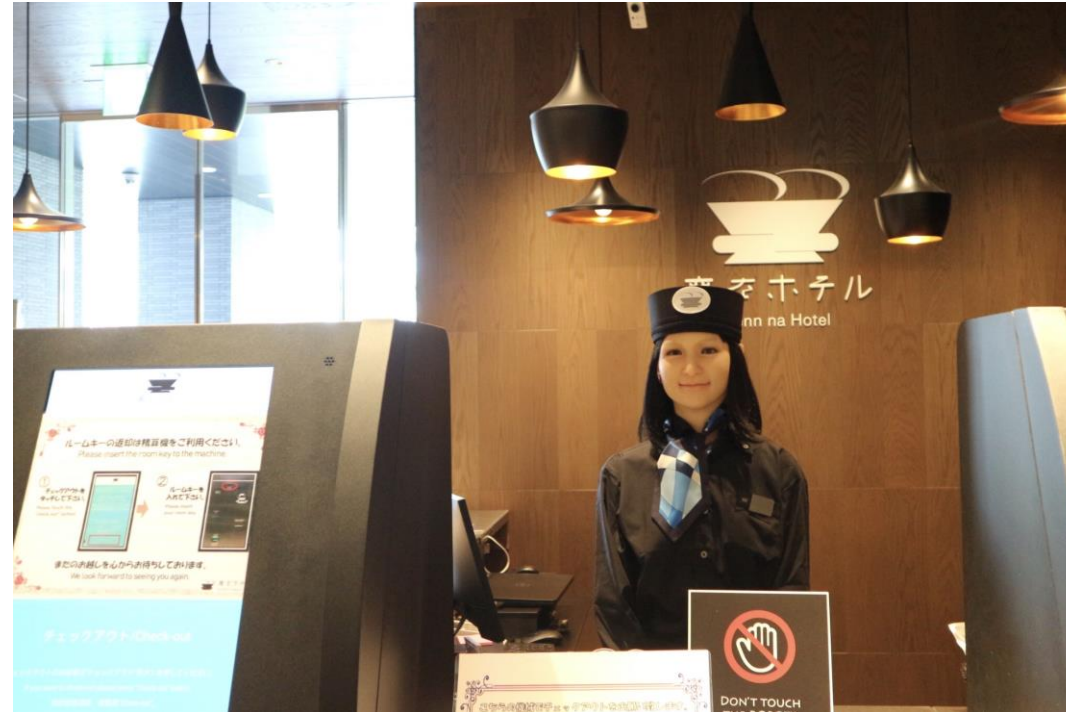
Control (human-in-the-loop)





AI: Key Priorities

- Privacy
- Fairness
- Security
- Abuse
- Transparency
- Policy



Google: “Concrete Problems with AI Safety”





Smart Destination

- Technology
- Innovation
- Sustainability
- Accessibility
- Inclusivity



Thank You!

i.tussyadiah@surrey.ac.uk

