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Introduction to Data Sharing and Re-use

CRC

Ulaanbaatar – 3 December 2024

Philippe Defraigne

The Economist
Theresa May v Brussels
Ten years on: banking after the crisis
South Korea's unfinished revolution
Biology, but without the cells
The world's most valuable resource
amazon
Google
Data and the new rules of competition

FINE GOLD 999.9
USB4GB

Data Sharing and Re-Use

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HiLo Maritime Risk Management (link)

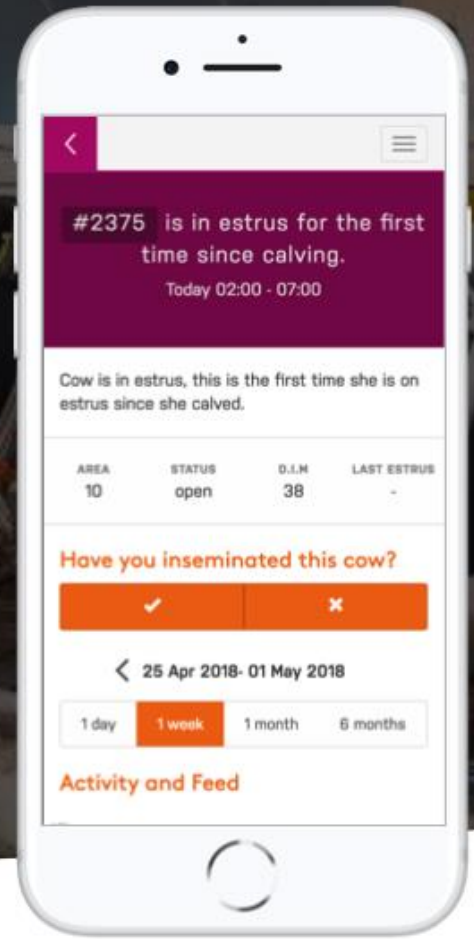
- High Impact Low Frequency
- Risks related to lifeboat accident reduced by 72% on 900 ships (between Aug 2017 and Aug 2018)

TRUST
TRUTH

Ida helps you improve farm production by up to 30%.

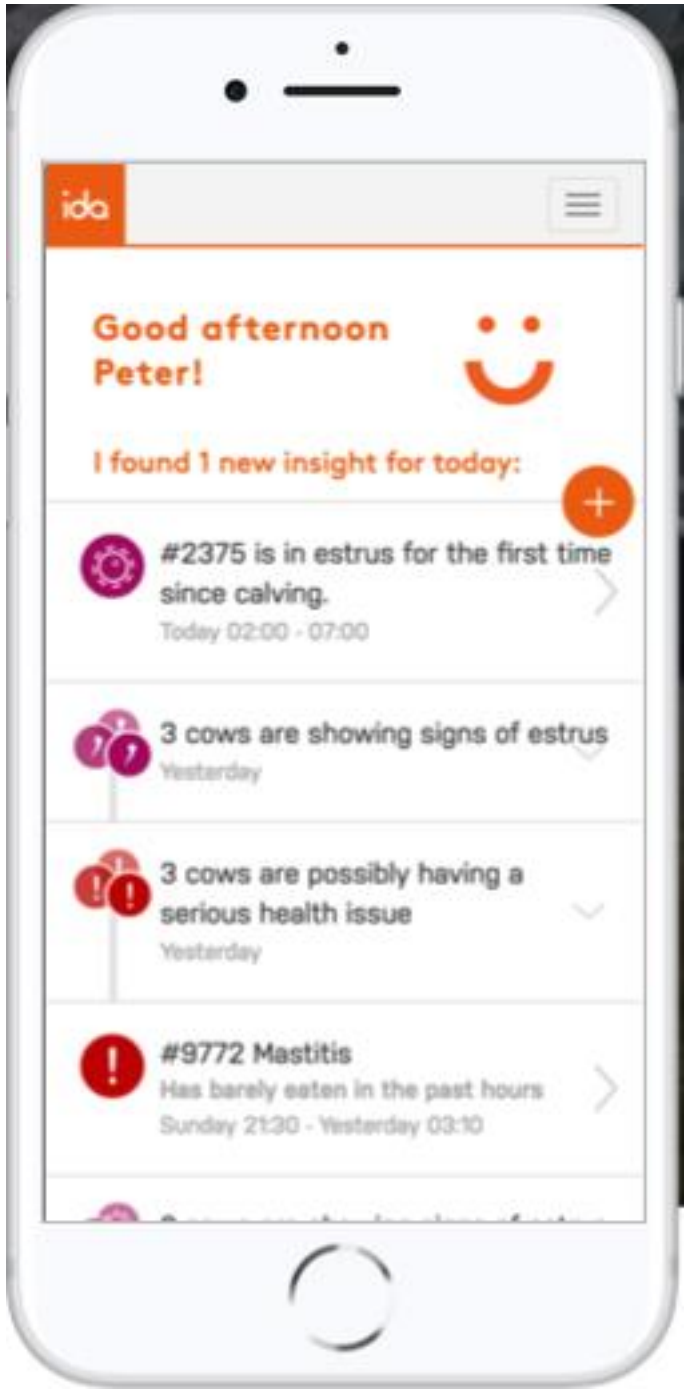
Request a Demo

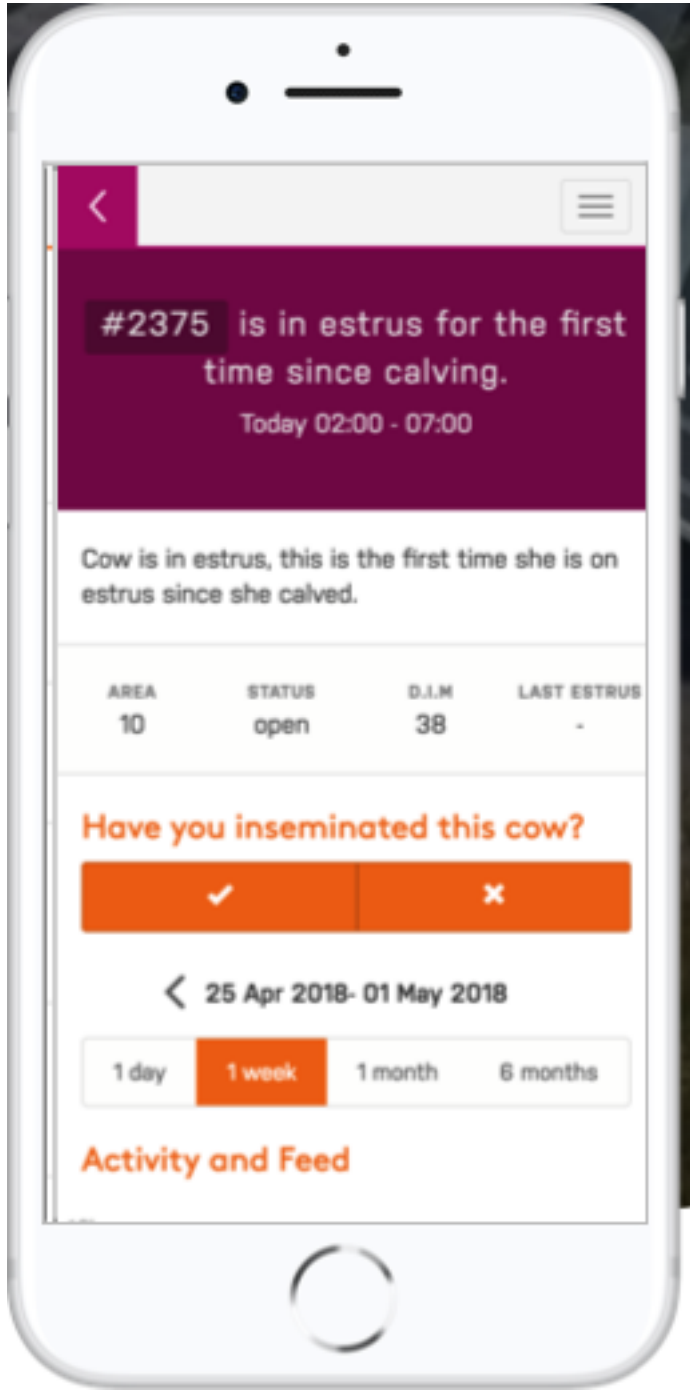
Nurtured by Connecterra



Actionable insights and intelligent advice

How Ida enhances the dairy farm.


ida
Good afternoon Peter!
I found 1 new insight for today:
#2375 is in estrus for the first time since calving.
Today 02:00 - 07:00
3 cows are showing signs of estrus
Yesterday
3 cows are possibly having a serious health issue
Yesterday
#9772 Mastitis
Has barely eaten in the past hours
Sunday 21:30 - Yesterday 03:10


#2375 is in estrus for the first time since calving.
Today 02:00 - 07:00
Cow is in estrus, this is the first time she is on estrus since she calved.
AREA
10
STATUS
open
D.I.M
38
LAST ESTRUS
-
Have you inseminated this cow?
25 Apr 2018- 01 May 2018
1 day
1 week
1 month
6 months
Activity and Feed

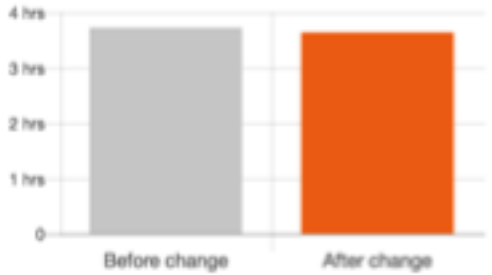
Final results

Sunday 17 Dec you changed the feed for all cows, and expected eating to have changed by Monday 15 Jan

There has been minimal change in eating.

Eating

Minimum decrease in eating, it has gone down with 5 minutes since the change.



Diagnosing cow #8416

Can the cow stand up?

✓ ? ✗

MOST LIKELY

rumen acidosis

TOP SUGGESTIONS

based on the answers you have given so far

pneumonia | inflammation

mastitis | milk fever | lameness

Ask Ida

You can ask me to see the effect of changing something like feed, bedding, ventilation or anything else

I will walk you through the steps to track the effect of a change

track a change

Tracked in the past

Feed for milking group
Tuesday 3 Apr — final results

Bedding for all cows
Sunday 17 Dec — final results

Concentrates for all cows
Sunday 17 Dec — final results

B2B Data sharing voluntary vs. mandatory

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B2B – Automotive industry - RMI

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B2B – Automotive industry - RMI

- Repair and Maintenance Information (RMI)
- EU revised Motor Vehicle Approval Regulation
- Update of previous directive giving FRAND-like solution for the access to RMI to protect competition in the automotive aftermarkets to be fit for the new cars' connectivity challenges.

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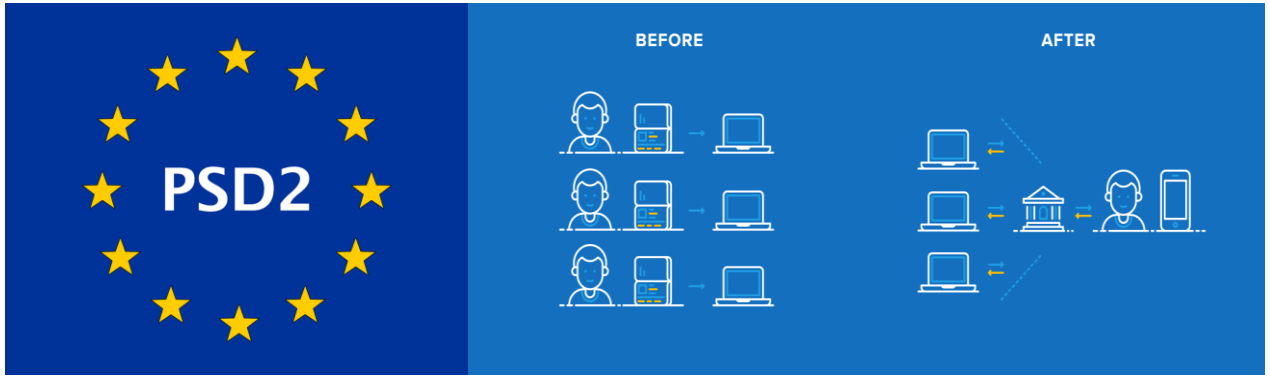
B2B - Access to personal banking data

Payment Services Directive (PSD2) allows Fintech companies to access personal banking data of their clients



Check Cullen

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B2G Data sharing

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Road safety

Many vehicles are equipped with the latest technologies that detect dangerous road conditions and warn drivers — for example, when roads are slippery. Road operators can detect potential danger areas with their comprehensive infrastructure. However, these warnings are beneficial to other drivers and road operators

B2G and B2B - Automotive industry – **Safety-Related Traffic Information (SRTI)**

- Data for Road Safety partnership (Dec 2020)
- Multi-party agreement (MPA) in which automobile manufacturers, automotive suppliers, road traffic authorities, EU member states and location technology providers commit to the long-term exchange of safety data in order to make roads safer.
- *"The agreement, which has a duration of five years, defines the technical and organisational framework of how safety data from multiple brands and multiple countries can be made accessible and used within the SRTI eco-system in a fair and trustworthy manner. It also defines the roles and responsibilities along the SRTI value chain. The SRTI ecosystem is based on a reciprocity model – with safety data being offered in return for safety services."*

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G2B Data sharing

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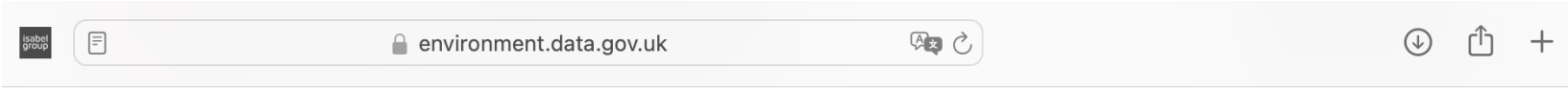
UK Government data on flood areas (DEFRA)



Flood areas

The flood areas API provide information on the geographic regions to which a given flood alert or warning may apply. These comprise *Flood Alert Areas* and *Flood Warning Areas*. A Flood Alert Area is a geographical area where it is possible for flooding to occur from rivers, sea and in some locations, groundwater. A single Flood Alert Area may cover a large portion of the floodplain, may contain multiple river catchments of similar characteristics and may contain a number of Flood Warning Areas. A Flood Warning Area is a geographical area where Environment Agency expect flooding to occur and which they provide a Flood Warning Service.

Full information on the areas is available from the Environment Agency Spatial Data Catalogue as a downloadable file and via a Web Feature Service or Web Mapping Service. For convenience we here provide the feature information for each area as a simple JSON format, including a specification of the polygon for each area (as a geoJSON feature in WGS84 coordinates). A typical application should maintain a local copy of the geographic information rather that reply on on-demand downloads of the rather large polygon files.

Each flood warning provides a link (`floodArea`) to the URI of the flood area to which it applies.

API

To describe an individual area

http://environment.data.gov.uk/flood-monitoring/id/floodAreas/{area-code}

To list all flood areas (several thousand):

http://environment.data.gov.uk/flood-monitoring/id/floodAreas

Supports the following filter parameter:

Query	Meaning
`?lat=y&long=x&dist=d`	return those areas whose location falls within `d` km of the given latitude/longitude (in WGS84 coordinates), this may be approximated by a bounding box.

The default limit on number of returned items is 500, this can be adjusted by given an explicit `_limit` value, there is no hard upper limit.

Link

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~~Data sharing: Yes or No~~

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Data sharing is more like 50 shades of grey

Data is NOT the new oil

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- **Data is non-rivalrous (but excludable)**
  - Data re-use and non-discriminatory access can maximize its value
  - Data enables multi-sided markets
- **Data is a capital with increasing returns**
  - Data can be re-used as input for further production
  - Data linkage is a key source for super-additive insights
- **Data is a general purpose input with no intrinsic value**
  - Data are an input for multiple purposes
  - Its value depends on complementary factors related to the capacity to extract information (e.g. skills, software)

Oil vs. Data – what lessons for data sharing?

	Oil	Data
Fungible	✓	✗
Rivalrous	✓	✗
Experience good	✗	✓
Loss comp edge	✓	✗
Eco of scale	✗	✓
Network effects	✗	✓
By-product	✗	depends
Replicable	✓	depends
Gen Purpose I	✓	✓

/…

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Data is not oil, but an infrastructural resource with large spill-overs

Data Economy - EU's vision

Data is the lifeblood of economic development

It is the basis for many new products and services, driving productivity and resource efficiency gains across all sectors of the economy, allowing for more personalised products and services and enabling better policy making and upgrading government services

A European strategy for data – Feb 2020

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Productivity paradox

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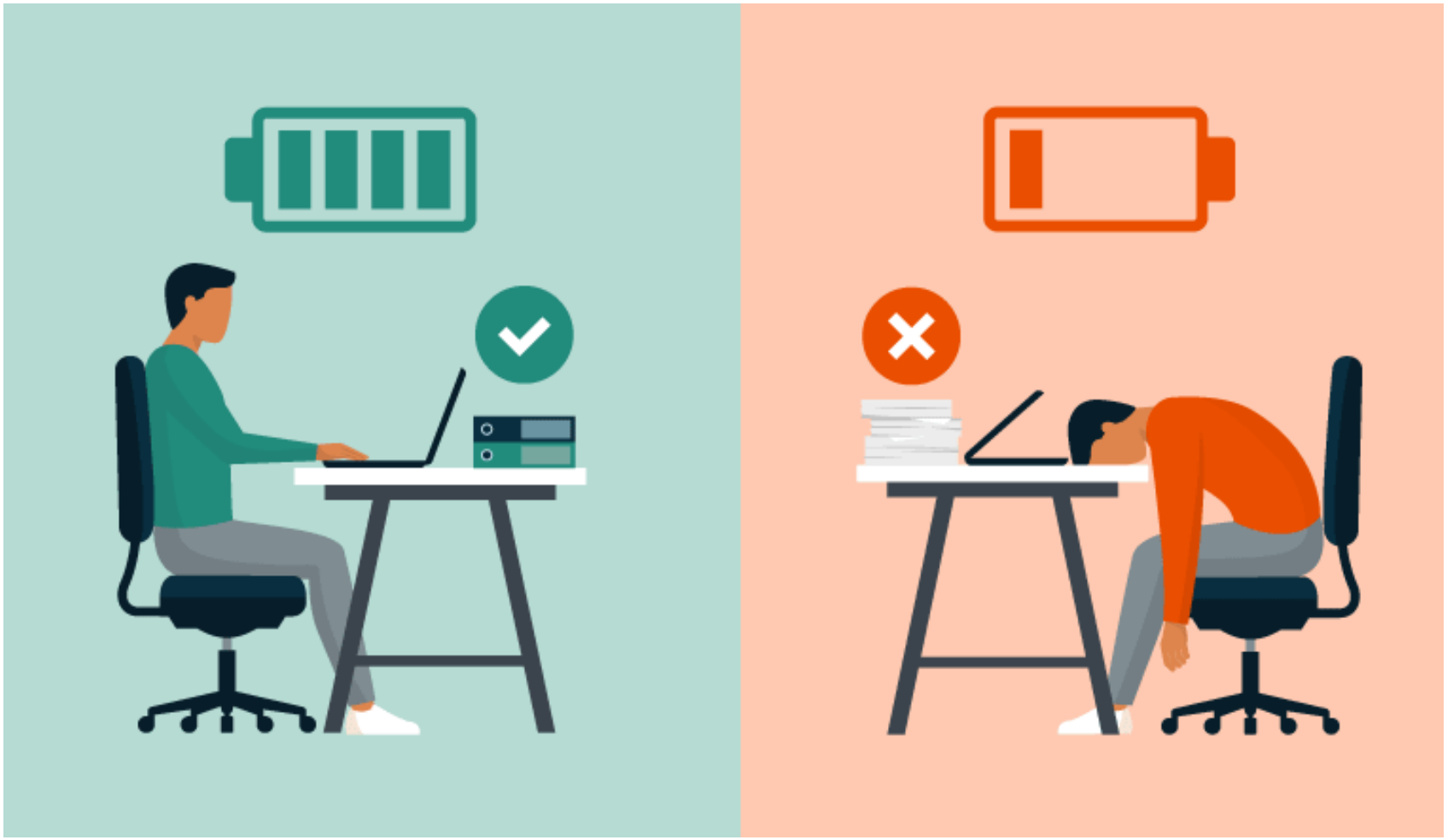
Productivity



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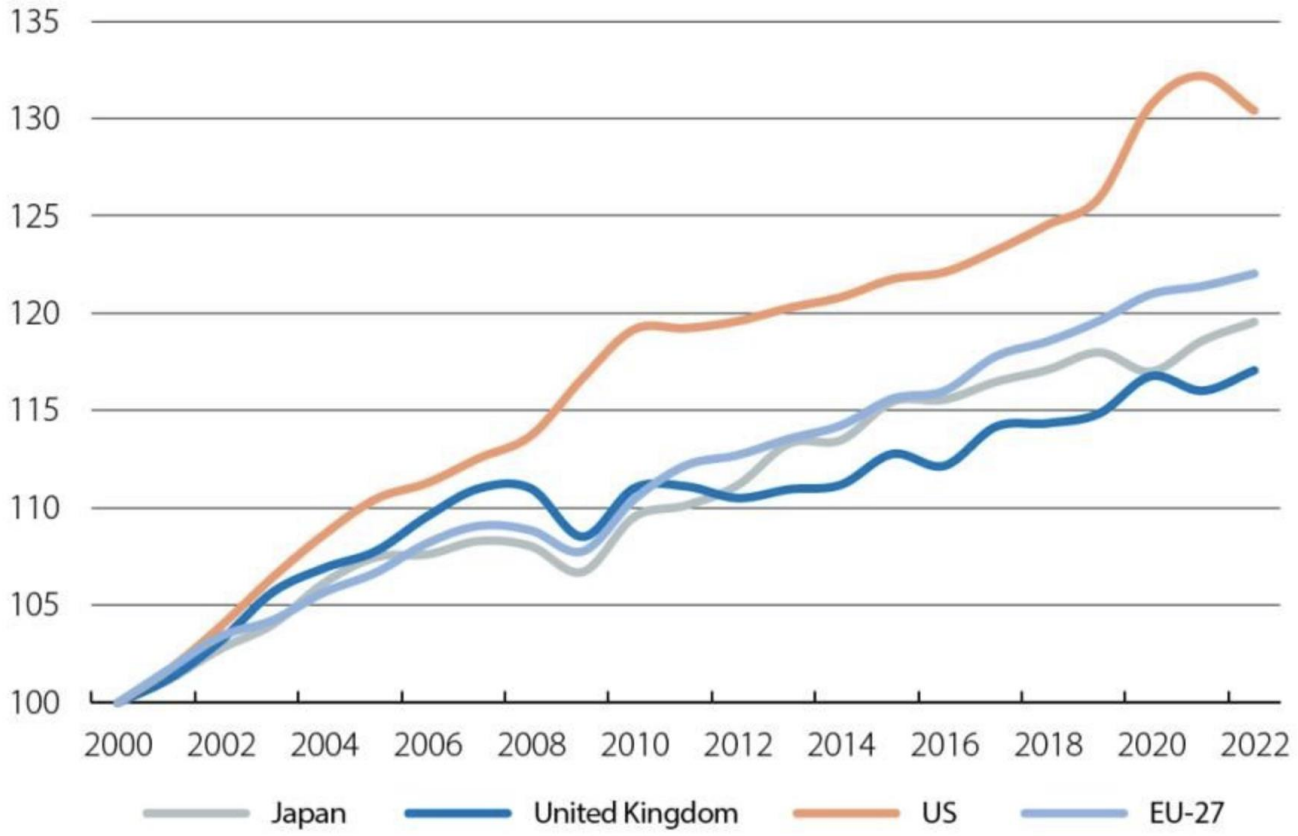
Productivity growth is slow

CaixaBank Research

Economics & Markets | Sectoral analysis | Geographical areas | Publications | Real-Time Economics



Note: *GDP in real terms per hour worked.*
Source: *CaixaBank Research, based on data from the OECD.*

Average annual growth of GDP/hour worked[1] between 2000 and 2022: 1.2%,

In 2022 productivity was 26.6% higher than in the year 2000.

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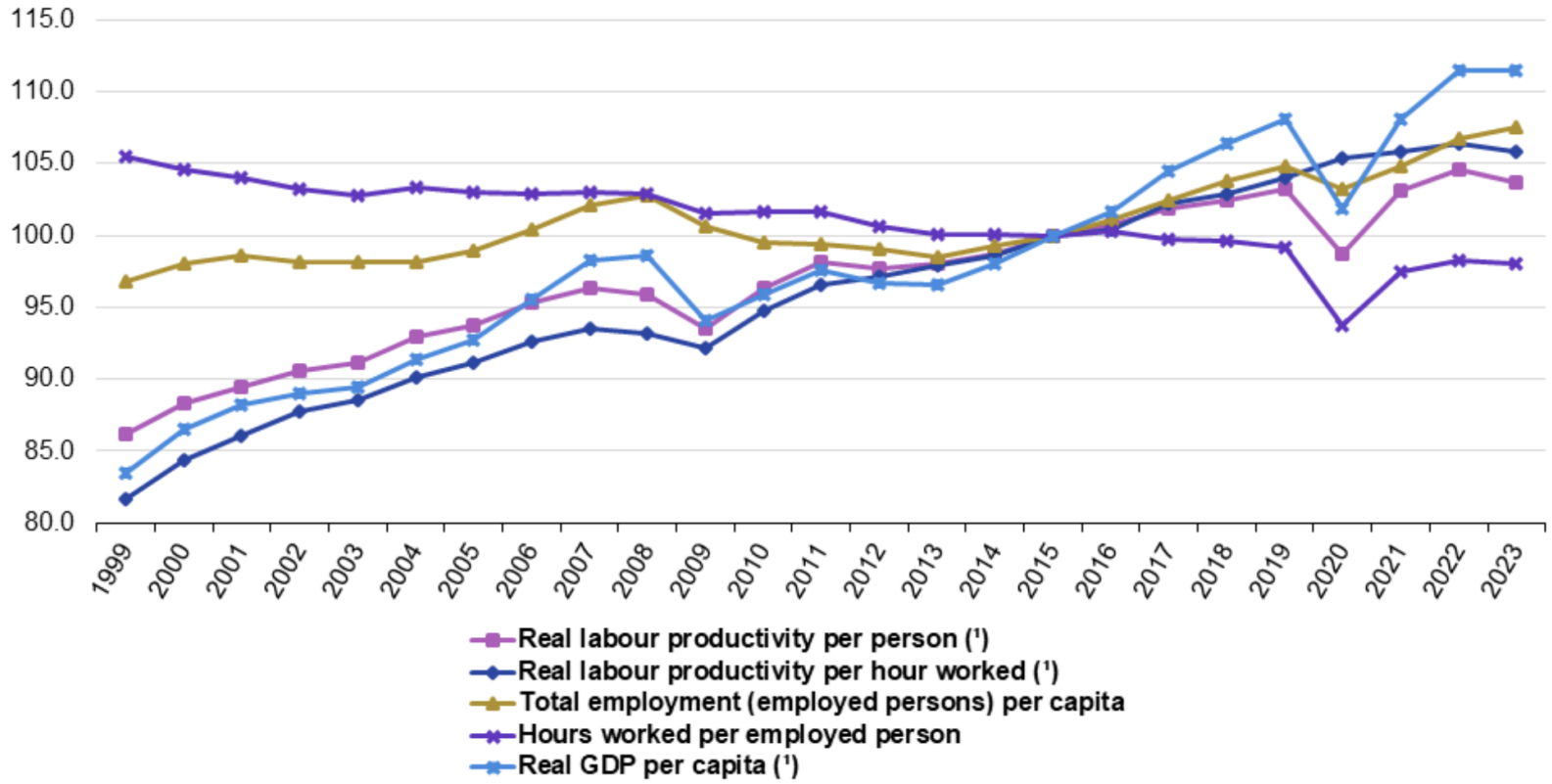
Productivity growth is slow

Evolution of key input indicators of labour productivity and real GDP per capita
(EU, index 2015 = 100, 1999-2023)



note: Y axis does not start at 0
(') these indicators are calculated on GDP in chain linked volumes
Source: Eurostat (online data codes: nama_10_lp_ulc, nama_10_pc

eurostat

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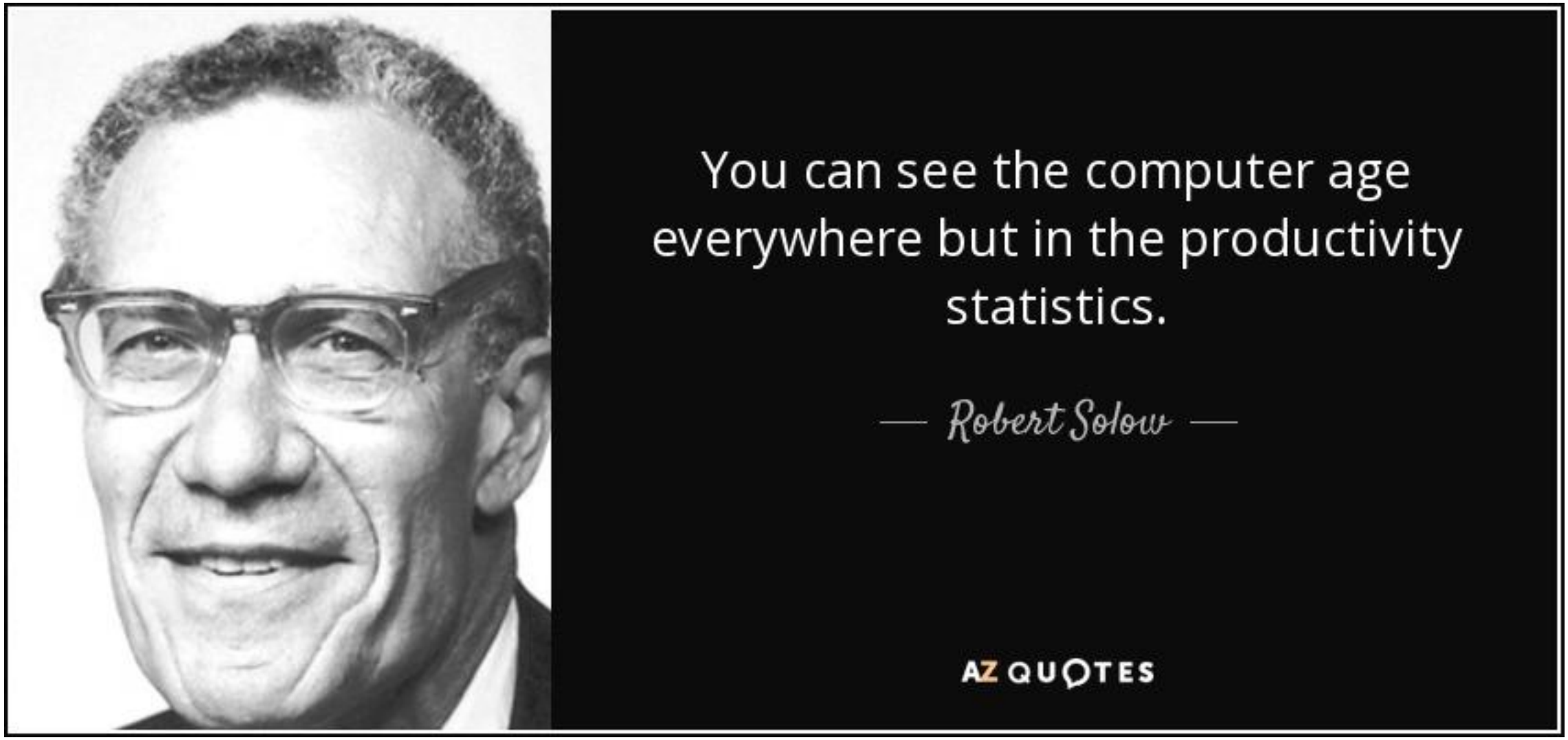

1987 Nobel Prize in Economics

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Thank you!

phil@cullen-international.com

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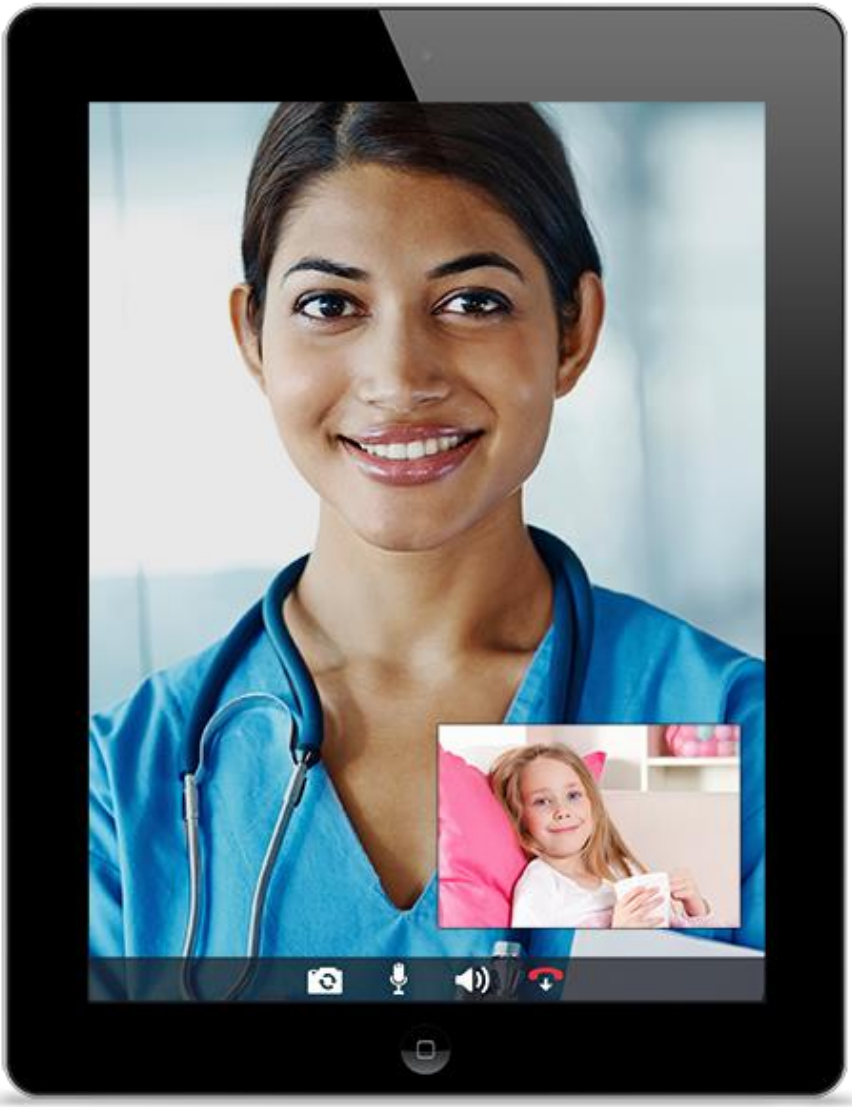

Sharing of IoT data

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IoT generated data

- https://www.databricks.com/blog/2023/02/21/best-practices-cross-government-data-sharing.html

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