



Deep data and shared computation: Shaping the future Trusted Smart Statistics

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If we were running a long-distance express parcel service ...

Mission

*... to deliver reliably and **quickly** ...*

Expectation by users

weeks

days

hours

Operational model



19th century



20th century



21st century



but we are running the European Statistical System

Mission [...] to provide independent *high quality* statistics [...]

**Expectation
by users**

annually
every 10 years

last quarter,
country level

last day?
per mq?
**Trusted
Smart
Statistics**
(smart)
surveys

**Operational
model**



census



census &
surveys



admin
registers



admin
registers

new digital
data

19th century

20th century

21st century

time



European
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User expectations are changing we need to keep their trust

Newspaper article on tourism at the Belgian coast during the long Easter weekend, released one day after the weekend:

"150 000 same-day visitors on Easter Sunday, 400 000 during the entire three-day weekend"

Monitoring by the **regional tourism board**, in cooperation with a mobile network operator & the road infrastructure administration.

In comparison:

| Current official statistics | Innovative approach |
|-----------------------------|-------------------------------|
| Entire quarter | Easter weekend |
| End June of following year | Next day |
| Entire country | Coastal strip of NUTS2 region |

Kust tevreden met verlengd paasweekend

Vandaag om 11:17 door llo | Bron: BELGA



Uit Print



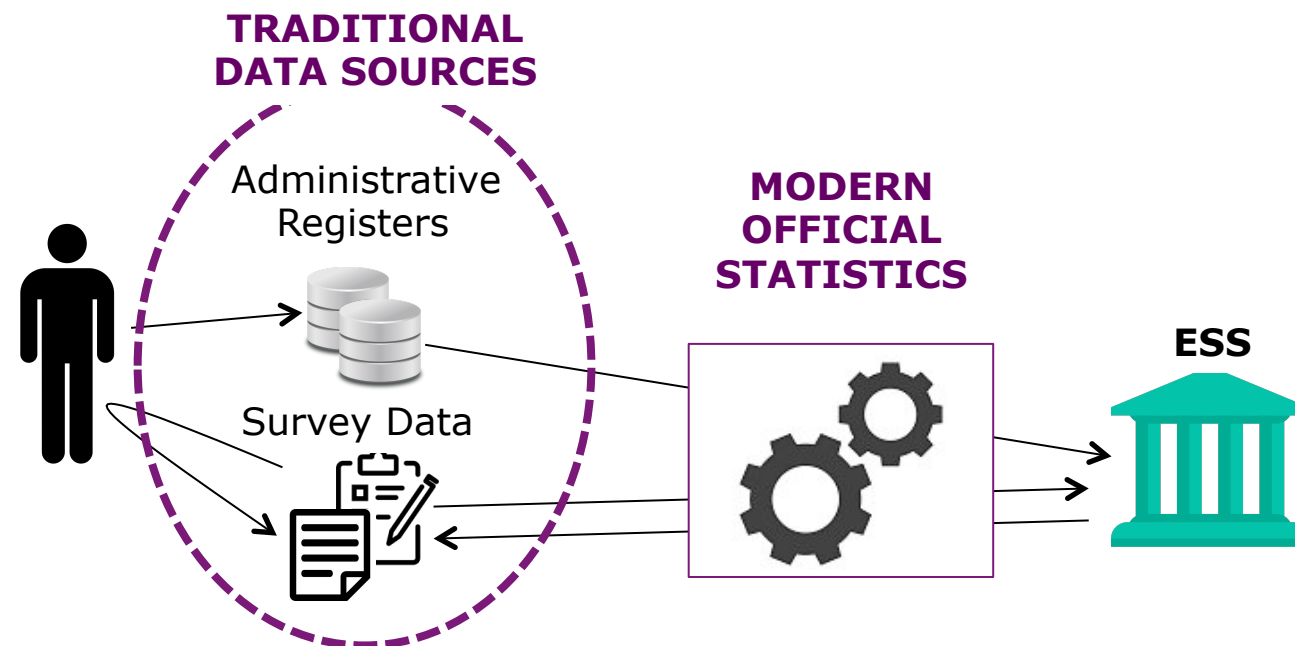
Foto: Kurt Desplander

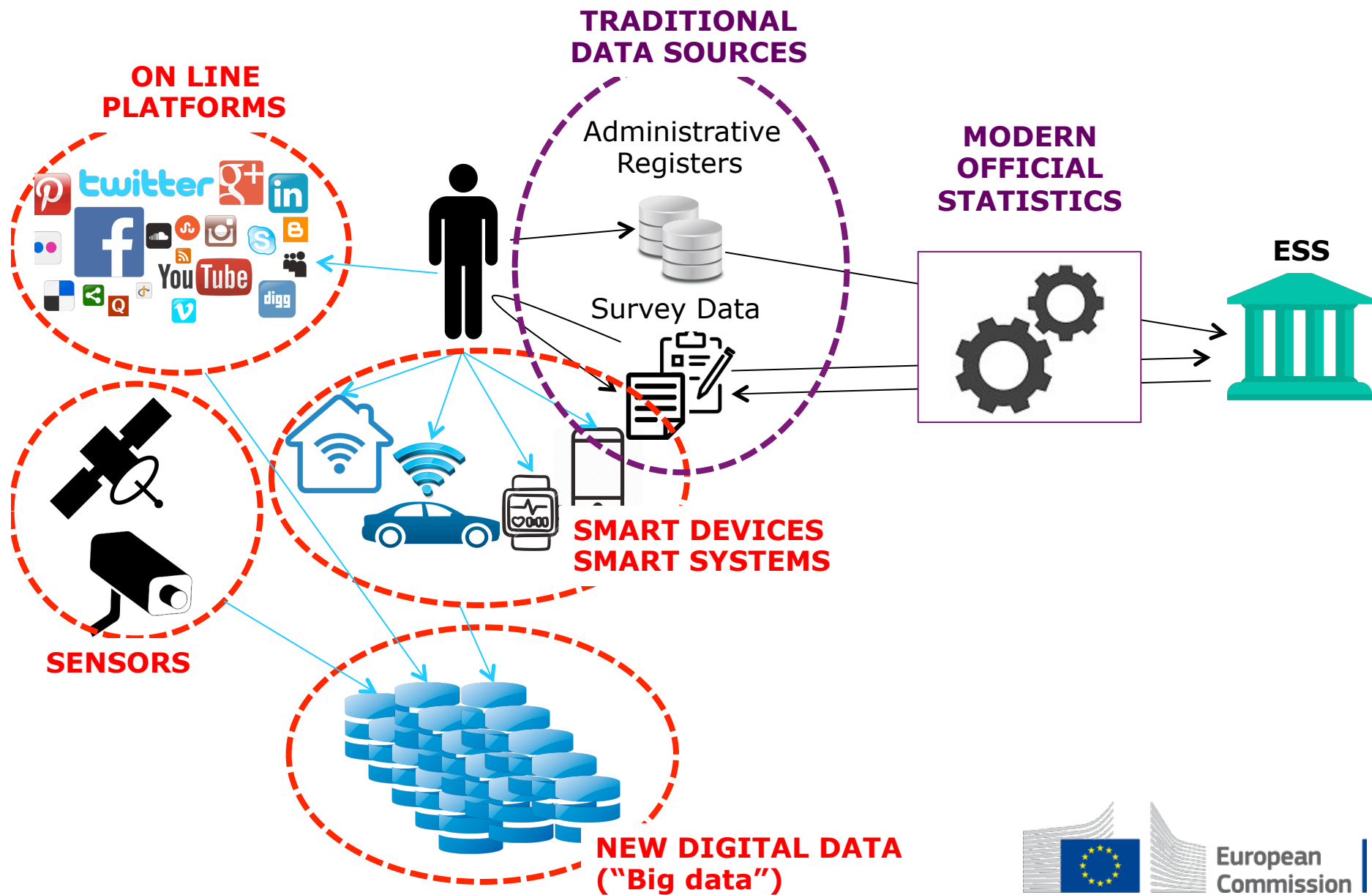
De toeristische sector aan de kust is tevreden over het verlengde openingsweekend van de paasvakantie. Dat blijkt dinsdag uit een monitoring van provinciebedrijf Westtoer in samenwerking met Proximus en het Agentschap Wegen en Verkeer.

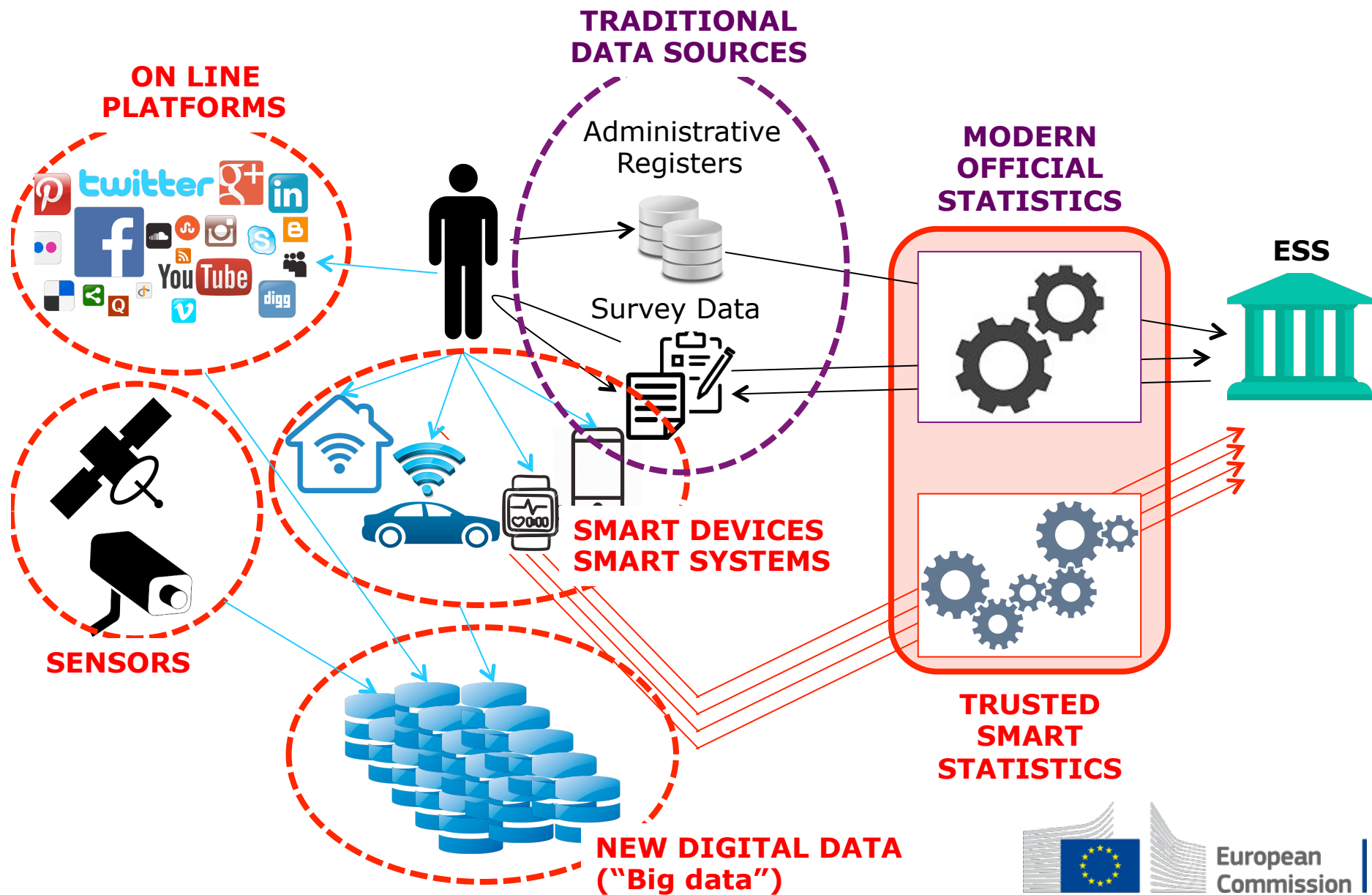
Met 150.000 dagtoeristen op Pasen, en 400.000 dagtoeristen verspreid over het hele paasweekend, blikte de kust tevreden terug op het startschot van de paasvakantie.

'De vele evenementen in de kustgemeenten hebben tijdens de voorbije dagen gezorgd voor aangename vakantiesfeer', aldus Franky De Block, gedeputeerde en voorzitter Westtoer.

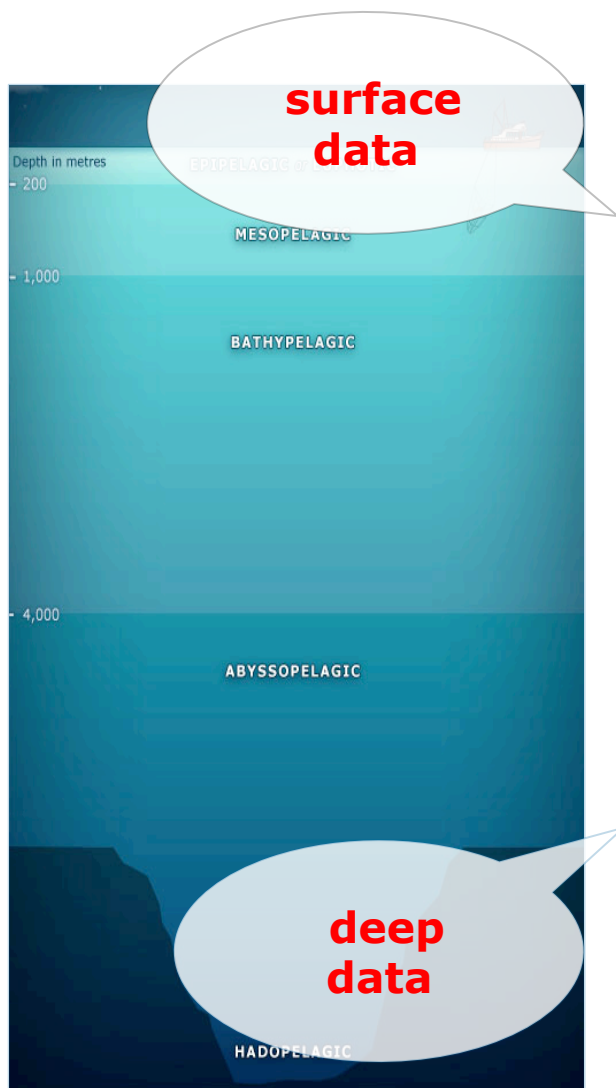
Ook voor het verblijfstoerisme schoot de paasvakantie goed uit de startblokken. Hotels noteerden een bezettingsgraad van 90 procent of meer. Bij de verhuur van vakantie woningen worden degelijke cijfers genoteerd met een gemiddelde bezetting van 75 procent en iets meer reservaties in de eerste week, gaf Westtoer vorige week al mee, maar met de aankondiging van het uitstekende lenteweek in de loop van de week verwacht de sector nog tal van last-minuteboekingen.







Surface data and deep data



- About the **individual**
- Features **changing slowly or rarely**
- **Recorded at coarse** timescale (months, years)
- ***Collected by public institutions***

micro-data



- About single **events, transactions** → ***sub-individual*** level
- Features **changing continuously**
- Recorded at fine timescale (minutes, seconds)
- ***Often held in the private sector***

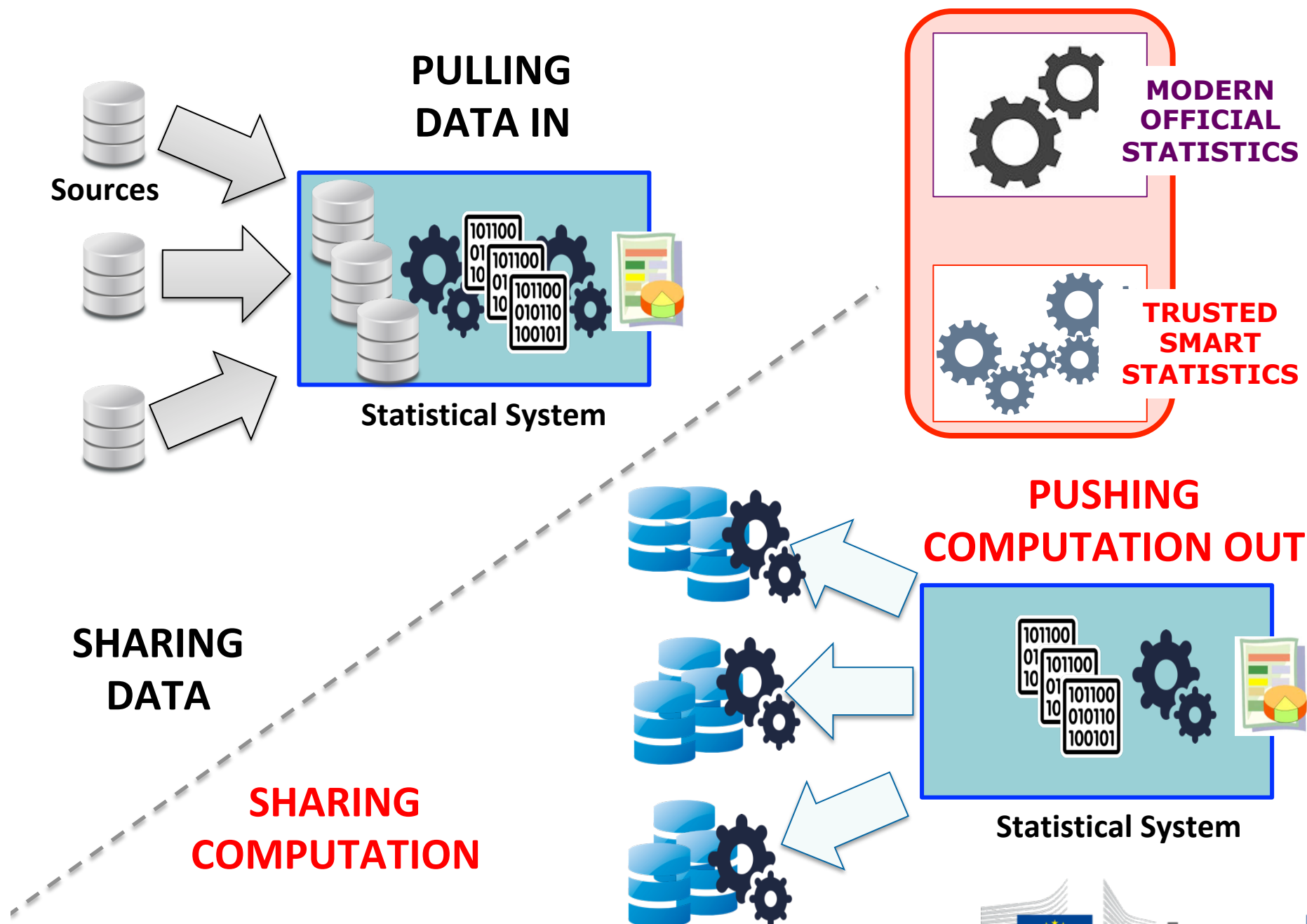
nano-data



Implications for data access, data/process governance, confidentiality



European
Commission



Privacy-by-design and transparency

Adopt *Secure Private Computing* Technologies

→ *disclosing only the desired output information
not the whole input data*

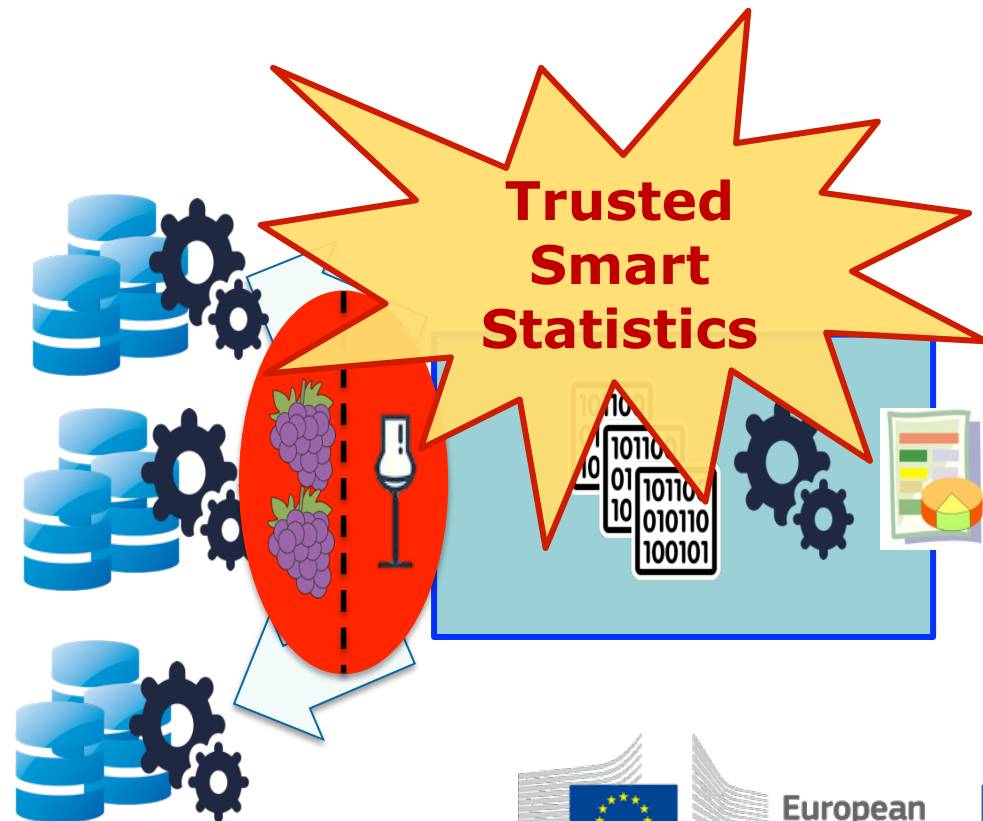


Sharing control with sources
over computation *execution*

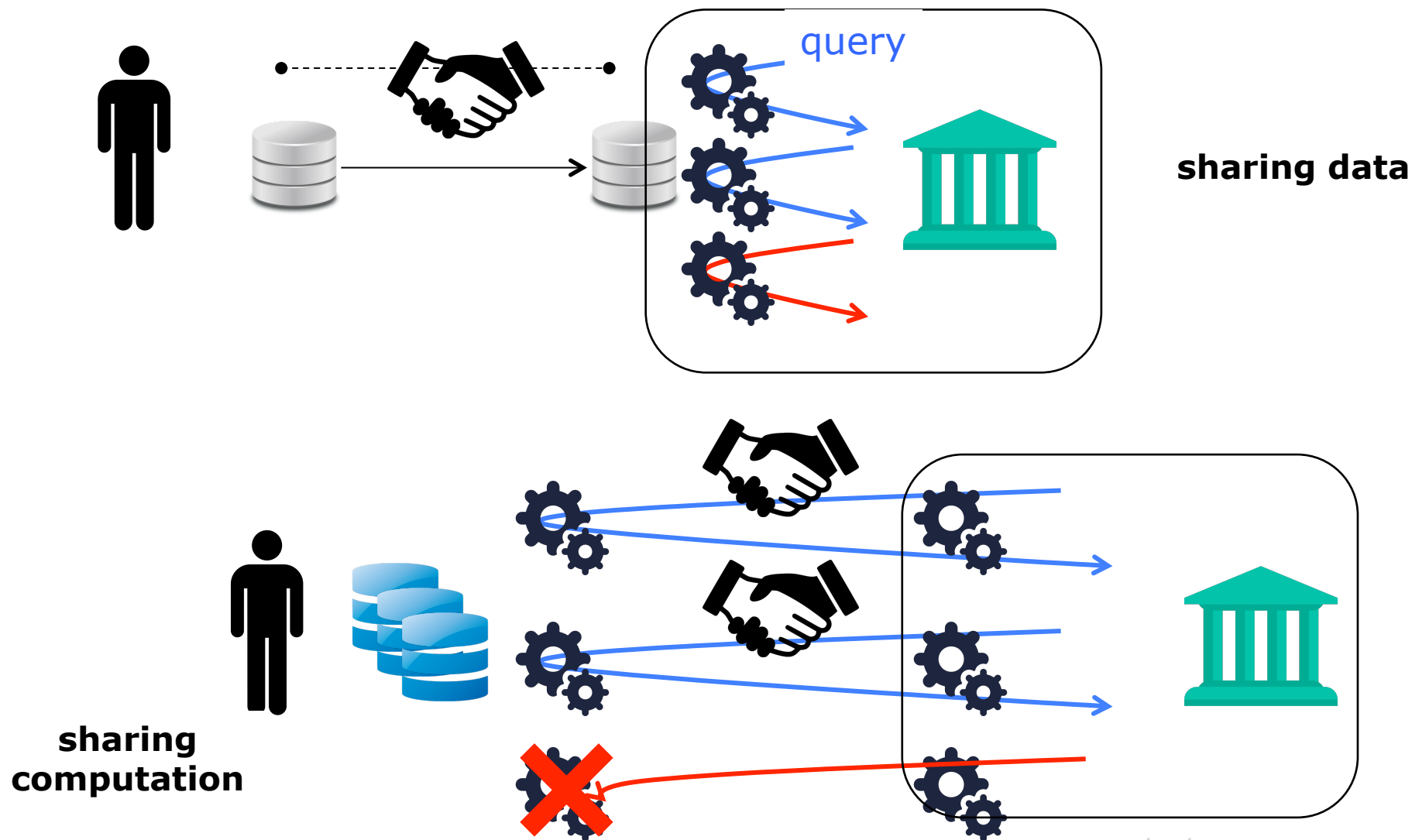
→ *trust, participation, engagement*

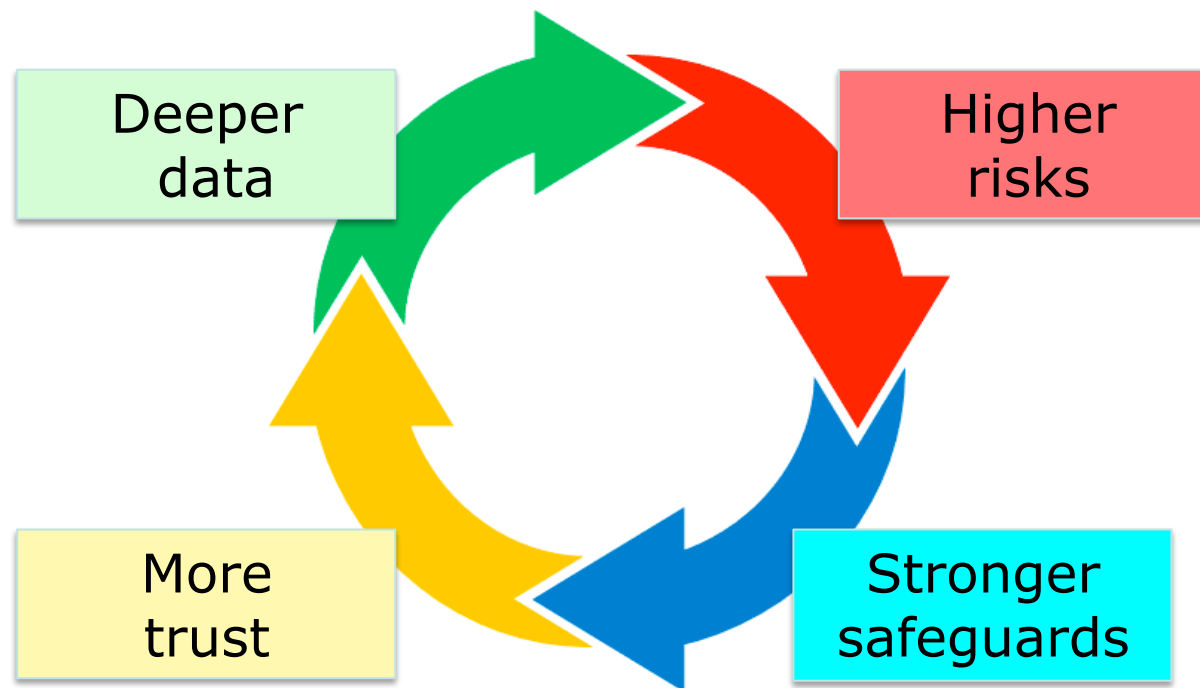
Maximal transparency

→ *open-source code,
public scrutiny*

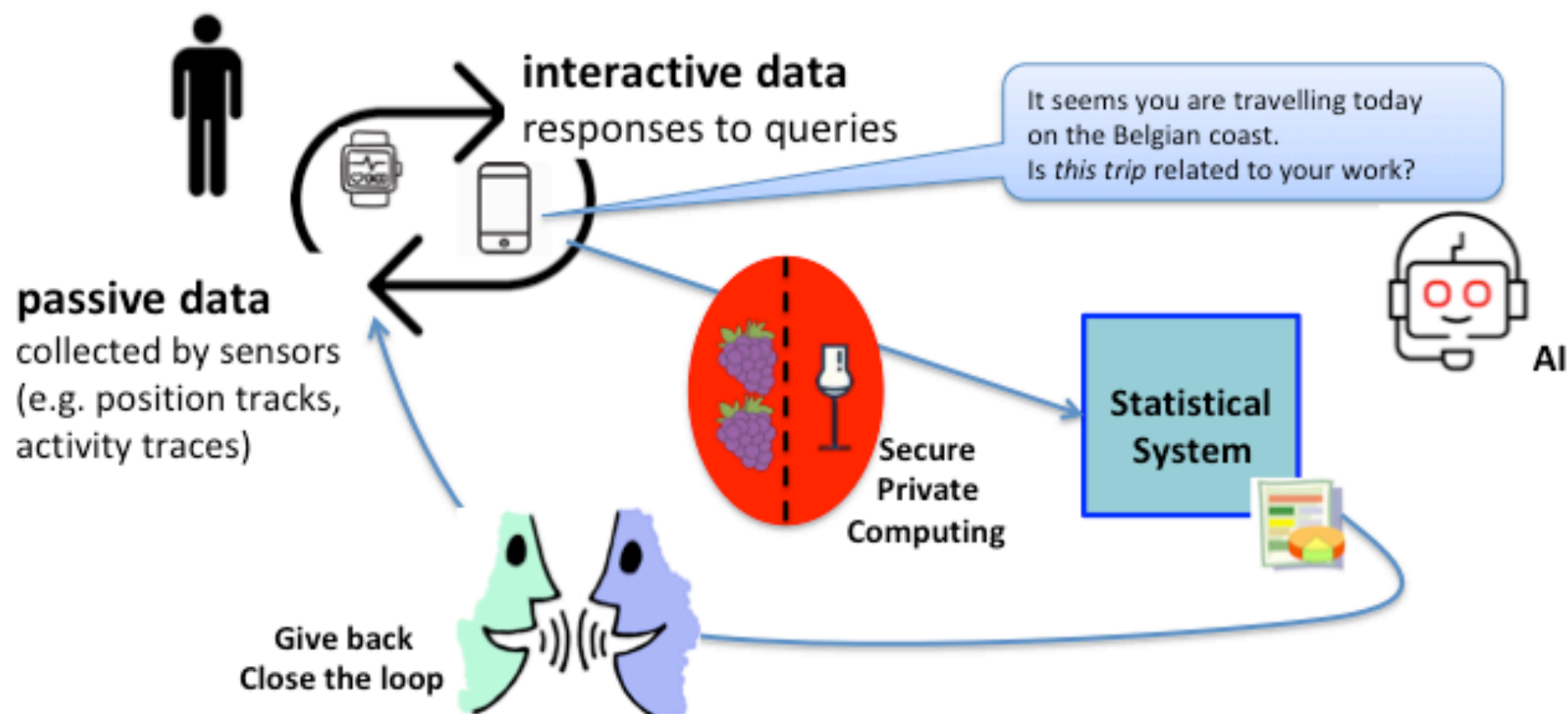


sharing computation = sharing control





Smart Surveys, Citizen Statistics



Data: a scarce commodity in the past



**From concentrating efforts on
collecting data,**



**To distilling veracious information
from the ubiquitous source
in the future**





Thanks for your attention

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