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Transforming AQ data to personalized services

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Reminding of some facts...

Chart — Attainment situation for O3

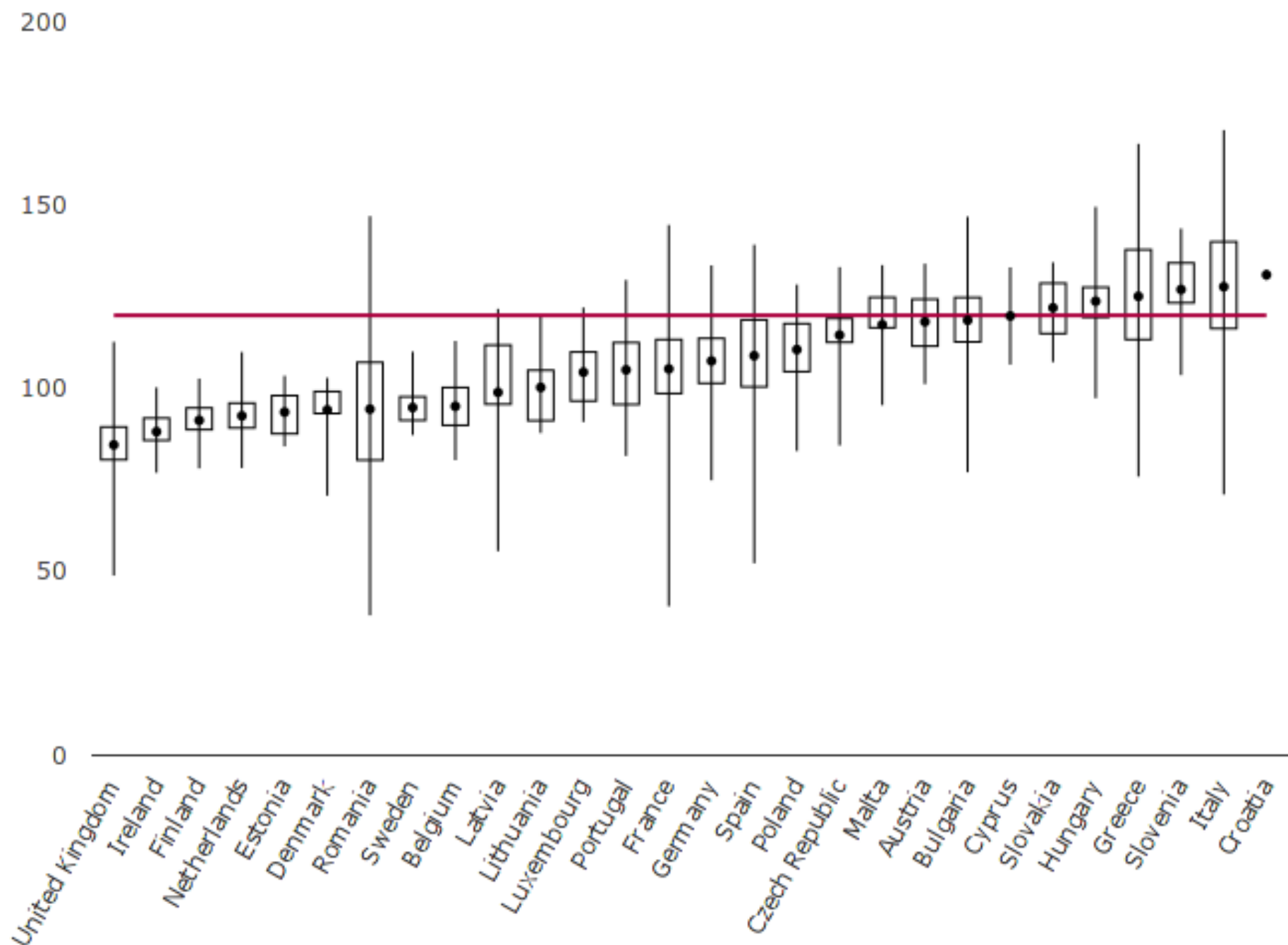


Chart — Attainment situation for PM10

150

100

50

0

Box plot showing the attainment situation for PM10 across various countries. The y-axis represents a numerical value (likely concentration or index) ranging from 0 to 150. A horizontal red line is drawn at the value 50. The x-axis lists 23 countries. Each country is represented by a box plot showing the distribution of data, with a black dot indicating the median. The countries are ordered from left to right based on their median attainment, with Estonia having the lowest median and Bulgaria having the highest.

Country	Min	Q1	Median	Q3	Max
Estonia	12	18	20	22	28
Ireland	15	20	22	25	35
Finland	5	18	22	25	45
Luxembourg	18	28	30	35	40
United Kingdom	12	25	30	35	45
Sweden	5	22	32	40	55
Spain	15	28	35	40	90
Germany	12	30	35	40	60
Denmark	28	30	35	40	45
Netherlands	25	32	35	38	55
Austria	18	32	38	42	58
Portugal	10	32	40	45	65
France	8	32	40	45	80
Lithuania	30	35	42	48	52
Latvia	28	30	42	48	62
Belgium	22	42	45	48	62
Croatia	28	45	45	48	48
Romania	22	40	45	48	80
Italy	15	35	48	58	110
Malta	40	48	48	50	58
Slovenia	22	42	48	55	68
Cyprus	32	48	50	52	68
Czech Republic	15	40	50	55	125
Hungary	28	40	50	52	78
Greece	32	40	50	55	68
Slovakia	30	48	52	60	75
Poland	18	52	68	82	135
Bulgaria	18	65	78	90	125

- *BMJ* 2015;350:h1295:
- Our findings suggest a **strong association between short term exposure to both gaseous (except ozone) and particulate air pollution, and admission to hospital for stroke and mortality from stroke**
- These **associations were strongest in low and middle income countries**, suggesting the need for policy changes to reduce personal exposure to air pollutants especially in highly polluted regions



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A new model for environmental services

The Model Has Changed...

The Model of Generating/Consuming Data has Changed

Old Model: **Few** are generating data, **all** are consuming data



New Model: **all** are generating data, and **all** of us are consuming data



The concept of IT-oriented, quality of life related, information services

Services created to help people in their everyday on the basis of certain assumptions:

- The average citizen wants specific information tailored to his or her immediate, everyday concerns
- The average citizen is not a scientist, and maybe not even an environmental “enthusiast”
- The average citizen does not understand the environmental science, nor does s/he necessarily *want to!*
- Simplification of the science-based information equals neither banalisation nor invalidation
- No simplification equals no communication
- Everyday utility is more relevant than scientific detail

But... . Why bother?

- We have no clue of the actual conditions in the areas we live and work
 - Urban hotspots
 - Household hotspots
 - Many other...



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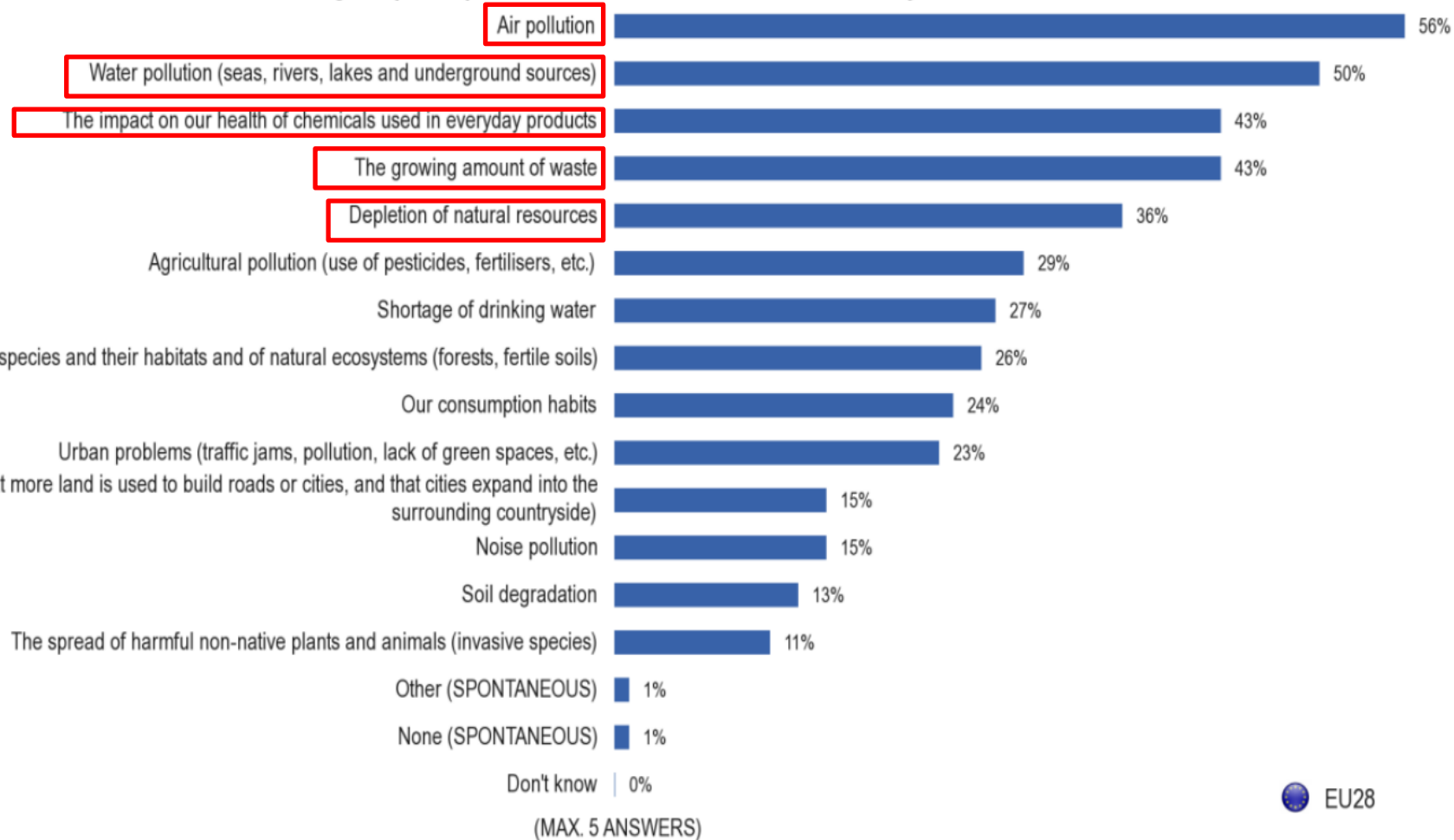
Citizen-centered design

Citizen-driven requirements

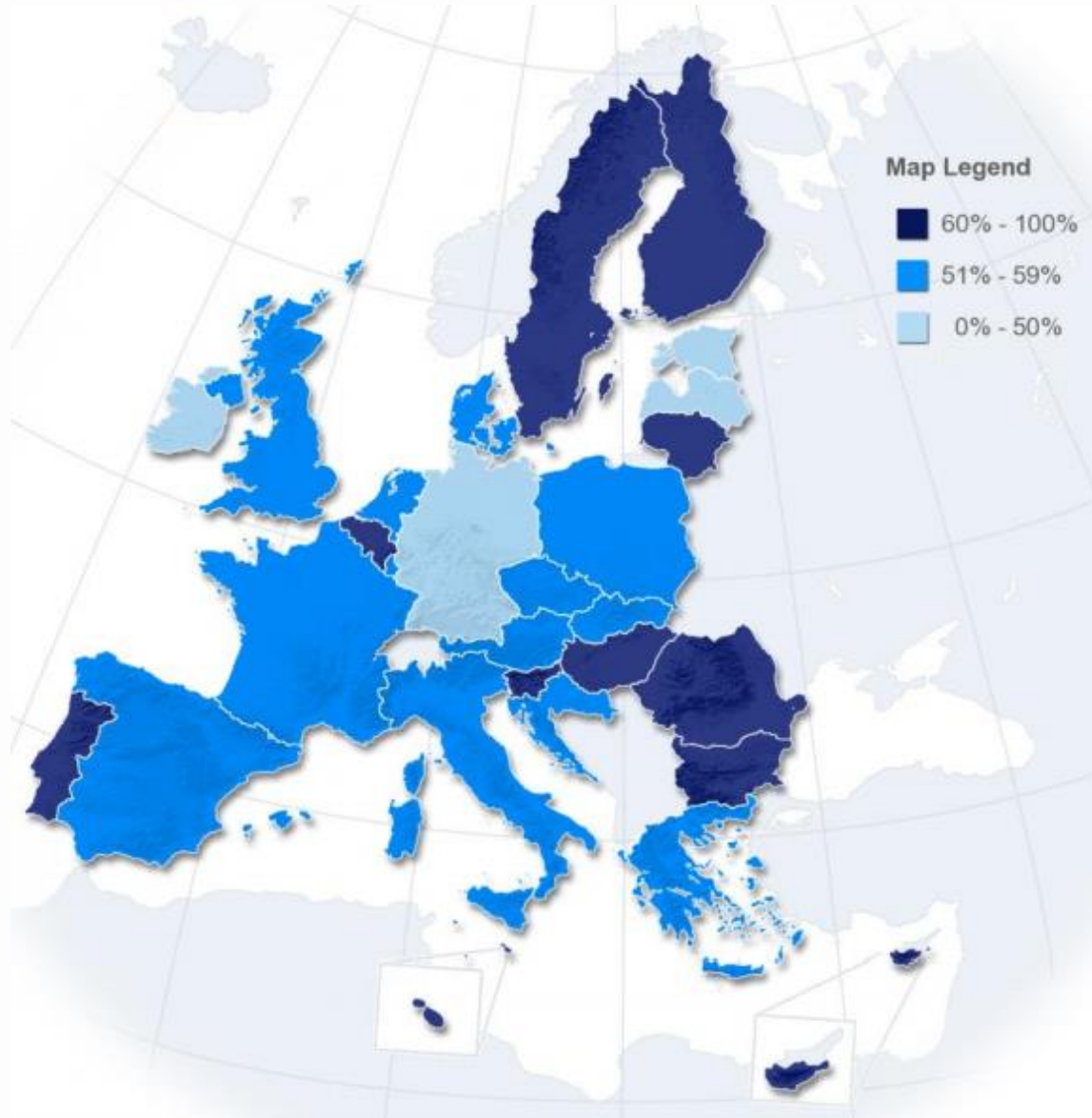
- Over three-quarters of Eurobarometer respondents feel that environmental problems have a direct effect on their daily lives (*Eurobarometer, Sept 2014*)

Main environmental concerns

QA2. From the following list, please pick the five main environmental issues that you are worried about.

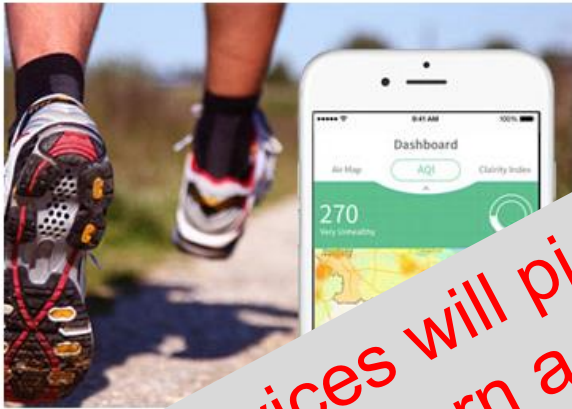


AQ related concerns over Europe



Services will use sensor-based data to provide contextual information

Services will pick up on patterns and routines and learn a user's preferences over time.



ROUTE



SEARCH A FRESHER PLACE



CHOOSE A SAFER AREA



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Service characteristics suggestions

Basic service characteristics

- Instant everything
 - AQ info at moment's notice
- Instant anything
 - Whatever is related to QoL and AQ, tailored to my needs
- Embedded intelligence
 - Always on assistance
- Optimize my day
 - Allow people to include environment-related, Quality of life oriented priorities to their everyday loop of actions

Basic service characteristics

- Support purposeful pairing
 - AQ related QoL together with healthier life or sustainable consumption or money saving habits
- Connect to the cloud to share information and insights
- Context-aware info provision
 - Receive info on pollution abatement measures at personal level on the basis of current or forecasted AQ at personal level

Devices and services

THE AIRBEAM

YOUR AIR QUALITY SENSOR



Air Mentor

Monitor Indoor Air Quality
& Give Right Advisory
for Health Life



Volatile
Organic Compounds

Carbon monoxide

Temperature

Particulate Matter

Carbone dioxide

Humidity



821 ppm CO₂

3 ppm CO



Good

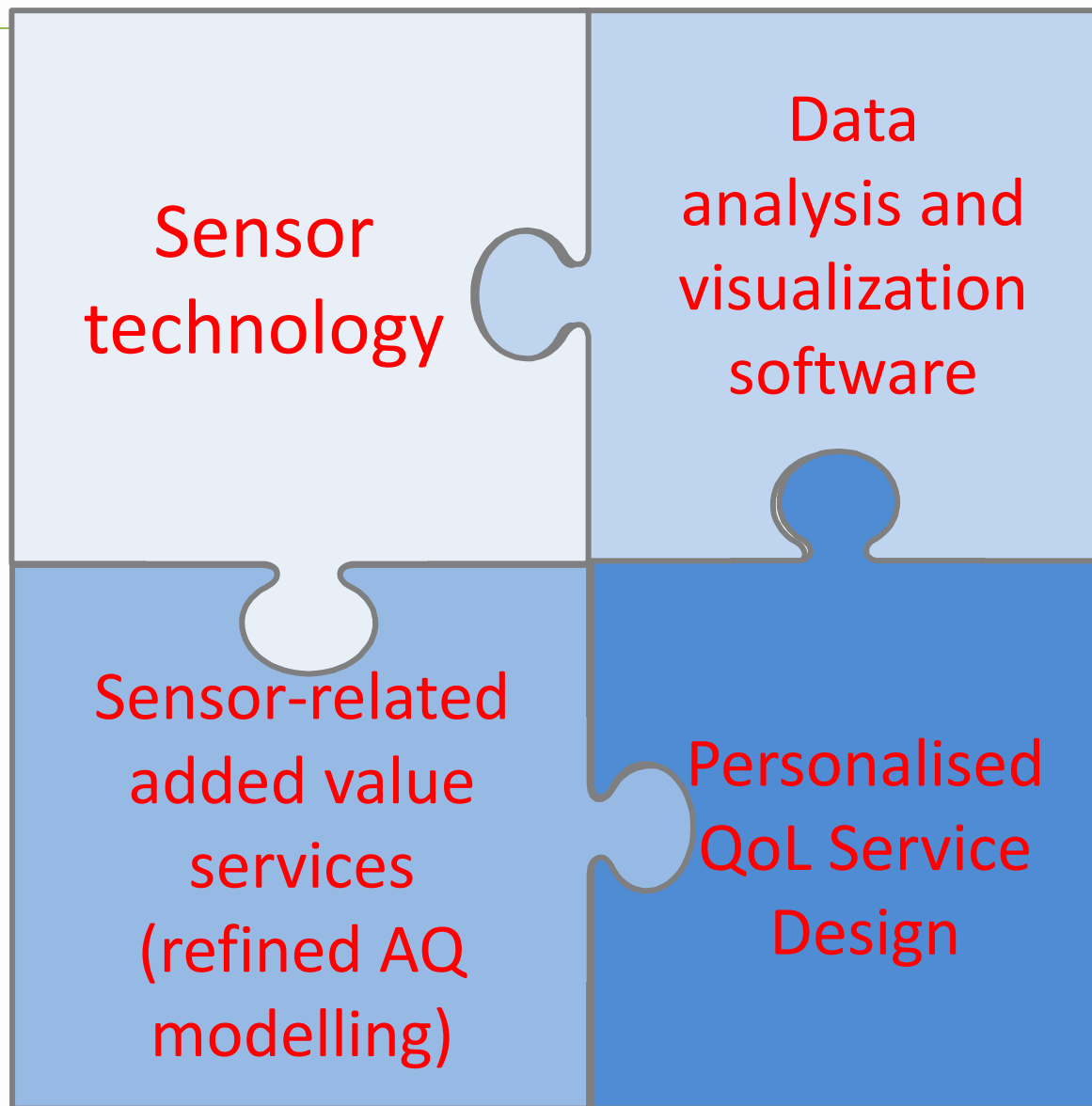
28 C

54 %

98768 Pa

Last measured: 08/08/2013 16:13:29





Thank you !
Questions?



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