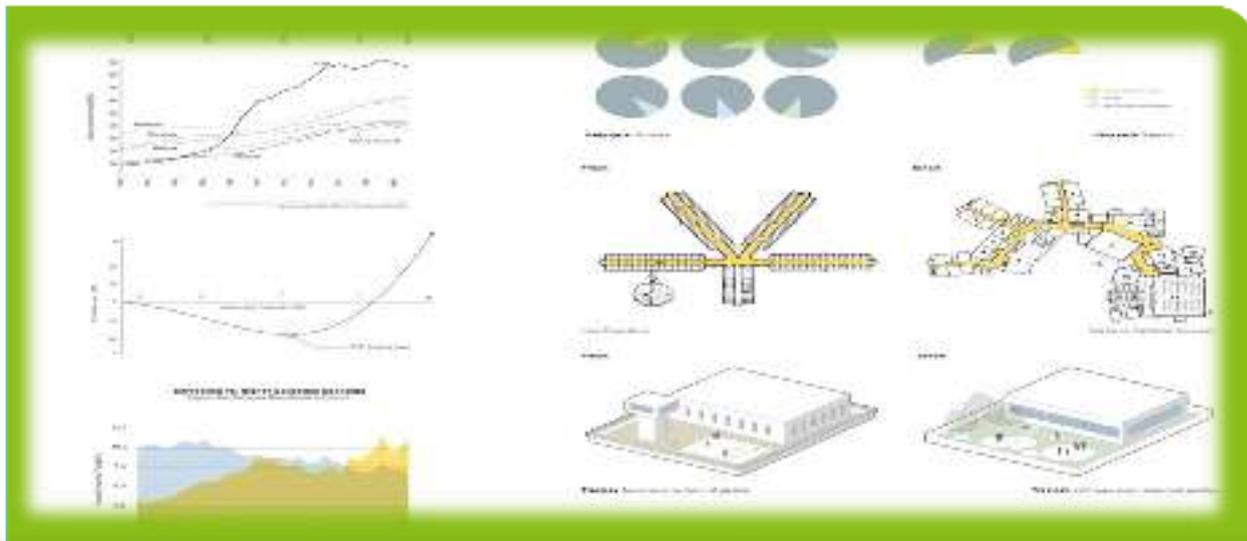


Unil

UNIL | Université de Lausanne



Workshop ICT in Prisons

Stockholm | 23 May 2018

## Evolution and standardization of Prison Statistics, Improvements on Data Quality in ICT & OMS: Challenges & Pitfalls

Prof. Stefano Caneppele (PhD)  
stefano.caneppele@unil.ch

# Summary

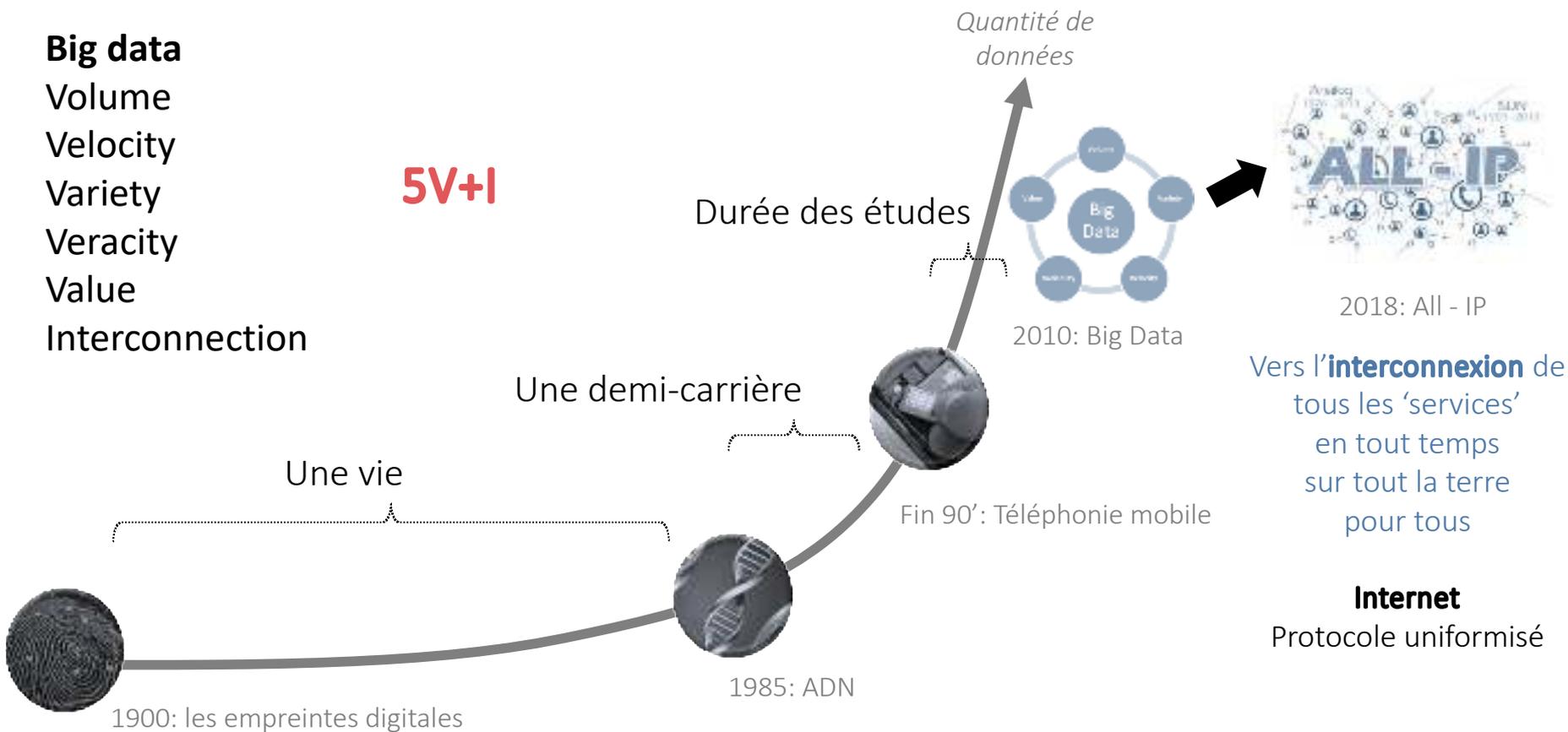
- Big data, big mess?
  - The expected growth of the Internet of things
  - When you lack of a strategic planning...
  - and What it is generally recommended
  - On Rigor in Science
  - Situating a management information system
  - The Simpson's Paradox
  - Cooking crime books and/or overwhelming your staff
- The power of concentration
- The surprise of innovation
  - The concentration of future
  - The influence of ICT in the prison system
- On change and innovation
- Conclusions

# Big data, big mess?

## Big data

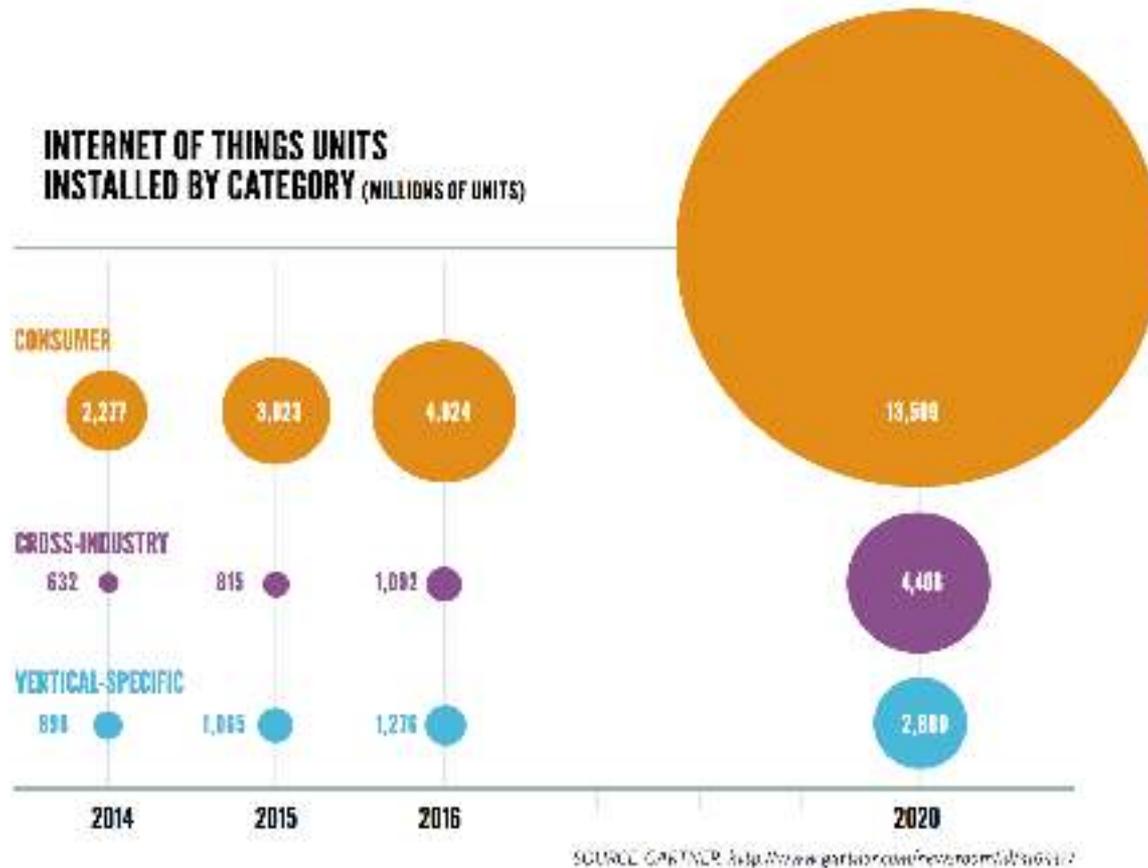
Volume  
Velocity  
Variety  
Veracity  
Value  
Interconnection

5V+I



Source: Rossy (2017) adapté par Ribaux (2010)

# The expected growth of the Internet of Things



# When you lack of a strategic planning...

## Flushed! Why did two women deposit €100,000 in Geneva toilets?

by Alanna Petroff and Stephanie Halasz @CNMMoney

September 13, 2017 10:34 AM ET



Investigators in Geneva are trying to understand why two Spanish women flushed roughly €100,000 (\$120,000) down toilets at a UBS bank branch and three nearby restaurants. Vincent Derouand of the Geneva Prosecutors' Office said the first incident involving cut-up €500 bills occurred in May.

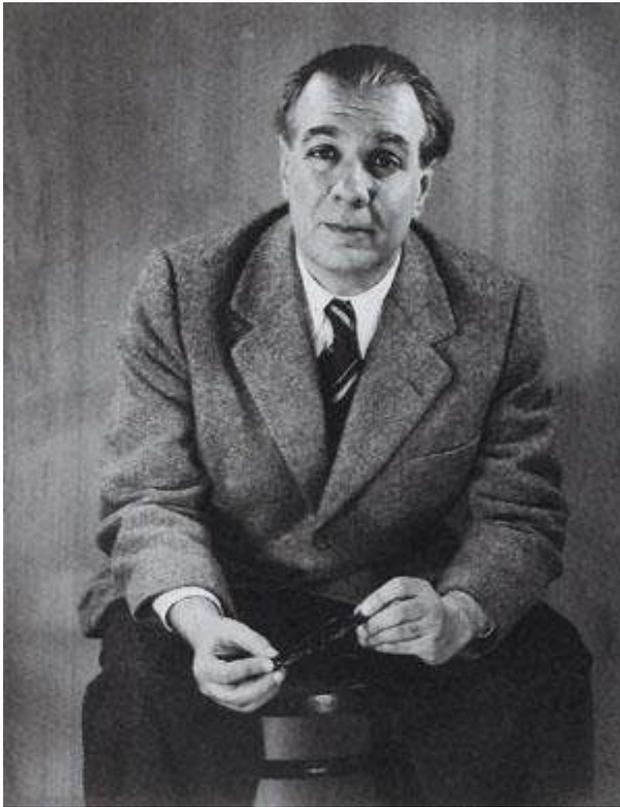
# What it is generally recommended

- Establishing effective management information systems (the prison population, the staff, the institution's resources and facilities, the institution's revenue and expenses, etc.)
- Performance monitoring

«An incremental approach to the development of such systems and the implementation of modern technology is usually recommended»

UNODC (2010), Handbook for Prison Leaders, Criminal Justice Handbook Series

# On Rigor in Science



Jorge Luis Borges

... In that Empire, the Art of Cartography attained such Perfection that the map of a single Province occupied the entirety of a City, and the map of the Empire, the entirety of a Province. In time, (...) the Cartographers Guilds struck a Map of the Empire whose size was that of the Empire, and which coincided point for point with it. The following Generations(...) saw that that vast map was Useless, and (...) they delivered it up to the Inclemencies of Sun and Winters. (...) in all the Land there is no other Relic of the Disciplines of Geography.

purportedly from Suárez Miranda, Travels of Prudent Men, Book Four, Ch. XLV, Lérida, 1658

# Situating a management information system

- It is useful to monitor the on-going situation, to compare your status with others and to standardize activities according to the selected indicators

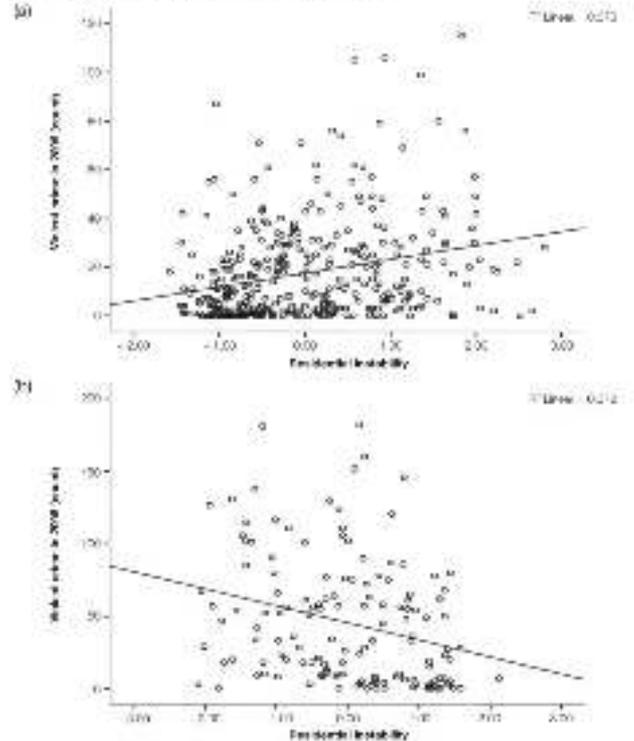
But always bear in mind that:

- Indicators should be accurately chosen (*map of the Empire*)
- Indicators are a *map of the Empire* and *not the Empire*
- Indicators tell you that you may have a problem but not the whys (beware of the Simpson's paradox)
- More indicators you collect more resources you have to deploy and/or more inaccuracy you have to accept
- Indicators may distort your practice (orienting performance or cooking the books)

# The Simpson's Paradox

Exhibit 3

Residential Stability and Violent Crime Scatter Plots for Charlotte and Mecklenburg County: (a) Census Block Groups, (b) Census Tracts



Simpson's paradox occurs when a trend apparent in separate data groups reverses itself once the groups are combined.

Researchers and policy makers should be aware of Simpson's paradox and its potential effect on aggregated data.

Demers, S., & Rossmo, D. K. (2015). Simpson's Paradox in Canadian Police Clearance Rates. *Canadian Journal of Criminology and Criminal Justice*, 57(3), 424-434.

Wilson, R. (2013). Changing Geographic Units and the Analytical Consequences: An Example of Simpson's Paradox. *Cityscape*, 289-304.

# Cooking crime books and/or overwhelming your staff

## 19 NYPD cops face punishment after cooking crime books

By Anne Kelly, Dawn Dobson and Lily Gelber

July 15, 2015 | 2:05pm



45th Police Precinct

© 2015 AP

<https://nypost.com/2015/07/17/bronx-cops-cooked-the-books-on-crime-reports/>

“The commander of a South Bronx police precinct has been transferred and 19 cops face disciplinary charges for cooking the books in a way that made crime numbers seem lower than they were”.

“(…) But a source who worked in the precinct for years told The Post that cops were likely ignoring minor offenses because they were busy dealing with more serious offenses”

# The power of concentration



Vilfredo Pareto  
(1848-1923)

Principe 80/20 or Law of Concentration

80% of the effects depend on 20% of the causes.

## *Examples in crime*

Repeat Offenders

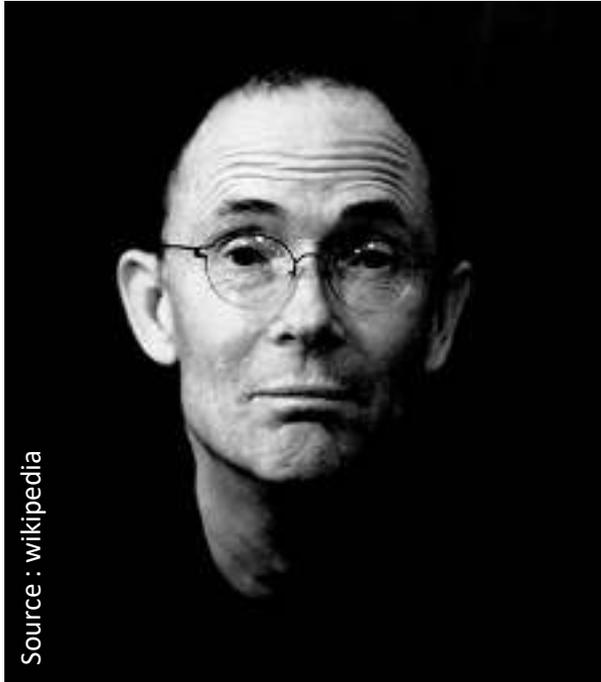
Repeat Victims

Hot Spots

Hot products

Risky Facilities

# The surprise of innovation



« The future is already here — it's just not very evenly distributed »

William Gibson (1948)

# The concentration of future



**MooCall**  
connecting you & call to your

Attach MooCall to a cow's ear, and receive a text alert upon 1 hour before she calves.

- Uses technology for farming
- Works at farms & the field
- Works outside agricultural equipment
- And supports ordinary but for each 200 cows
- Alerts up to 2 mobile phone numbers
- No additional hardware required
- After calling just move to the next cow

FOR MORE INFO: [www.moo-call.com](http://www.moo-call.com)

# The influence of ICT in the prison system

- ICT for Prison Management Effectiveness
- ICT for Rehabilitation
  - Resettlement (Employment, Housing and Finance)
  - Education and Training
  - Family Relationships



# ... you may neglect security issues in the development



# ... bugs are a constituent factors of the algorithms



The 'Venus of Willendorf' figurine of a voluptuous naked woman, which is some 30,000 years old, was discovered in the Austrian village of Willendorf in the early 20th century

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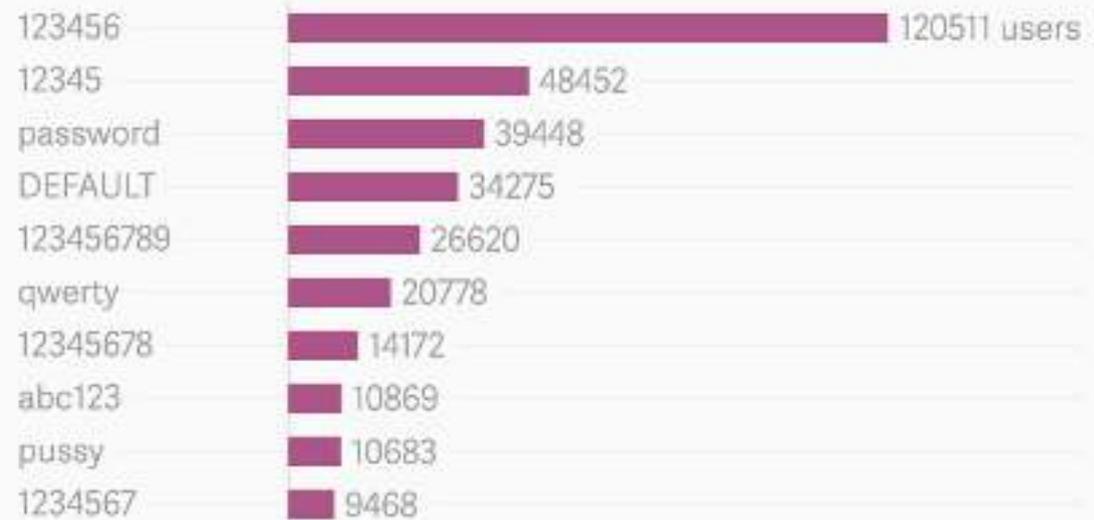
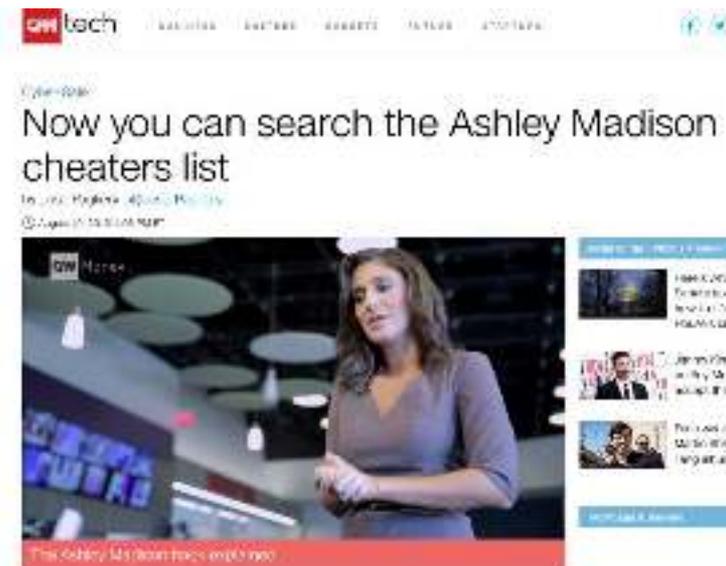
### Museum condemns Facebook for censoring the Venus of Willendorf statuette of a voluptuous naked woman carved 30,000 years ago

- Venus of Willendorf figurine of a voluptuous naked woman deemed masterpiece
- But because it shows a woman's naked body, it has been censored by Facebook
- Now the Natural History Museum in Vienna, where it is displayed, has hit back

By AFP and [JAIN BURNS FOR MAILONLINE](#)

**PUBLISHED:** 18:40 BST, 28 February 2018 | **UPDATED:** 19:04 BST, 28 February 2018

# ... giving the opportunity to be safe does not grant that people adopt safety precautions



# ... people and organisations are resistant to change



Petrosino A, Turpin-Petrosino C, Hollis-Peel ME, Lavenberg JG. 'Scared Straight' and other juvenile awareness programs for preventing juvenile delinquency. *Cochrane Database of Systematic Reviews* 2013, Issue 4. Art. No.: CD002796. DOI: 10.1002/14651858.CD002796.pub2.

<https://www.prisonlegalnews.org/news/2016/jun/3/scared-straight-programs-are-counterproductive/>

Programs such as 'Scared Straight' involve organized visits to prison facilities by juvenile delinquents or children at risk for becoming delinquent.

Scientific evidence indicates that it does not work.

Supported by research, the Office of Juvenile Justice and Delinquency Prevention does not fund Scared Straight programs and cites such programs as potential violations of federal law.

Nonetheless, many similar programs still exist across the country, since they are generally inexpensive to create and administer.

# Conclusions

- Management information systems (MISs) are good to standardize the existent and to make comparisons (with caution)
  - For example, UNIL may explore the feasibility to combine country level data with Europris data in order to provide information about the variance of country average value (e.g. prison population / overcrowding)
- MISs are not good to manage innovation
  - Ad hoc pilot projects should preliminary assess the benefits of ICT innovation
- There is a need of evidence based practices in the field of the impact of technological innovation on criminal justice institutions
  - A public research agenda on the impact of ICT on prison system could raise the attention of policymakers, academic community and the public on the necessity of systematic studies across European countries
  - The openness and the availability of data will allow for more research, more accountability and more quality for the entire prison system



**Thank you for your attention!**  
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