TECHNOLOGICAL DISPARITY ACROSS PRISON SERVICES

Authors: Toon Molleman, PhD. & Rianne van Os, Msc.[1]

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0. Abstract

This paper reports on a survey that was conducted by the International Corrections and Prisons Association (ICPA) and European Organisation of Prison and Correctional Services (EuroPris) in 2016. These organizations strive to share, collaborate and learn from others and promote the interaction between prison and correctional services worldwide. This survey gives an unique insight in the status quo of prison and correctional services around the globe (36 prison services in 33 different countries) on the topic of technology in general and offender information management systems more specifically. In this contribution we describe the general characteristics of the prisoner information systems that were surveyed, the need that jurisdictions felt to change these systems, the ways in which services use prisoner information, and what they plan to do with technology in the near future. Furthermore, we report on the problems services face with their information management technology. As we received responses from every continent on the globe, we also look for differences between continents and different stages of development.

1. Background

EuroPris and ICPA are innovative, learning organizations that strive to enhance international and inter-agency co-operation. The associations actively promote policies and standards for humane and effective correctional policies and practices, assisting in their development and implementation. An area in corrections that is witnessing some dramatic advances is technology. Technology is increasingly all around us, integrated with our daily lives and for the most part taken for granted. The advantages that come with implementing technology are apparent – it can save time, resources, enhance knowledge, and improve communication, to name but a few. Industries worldwide are adopting new technologies to streamline processes and enhance outputs. The corrections 'industry' is no exception to this rule. We've seen the introduction of electronic monitoring, case management systems, telemedicine, video technologies and self-management systems for inmates, and there has been a great deal of focus on best practices for the development and use of these various technologies.

In this 21st century environment we must strive to ensure that the advantages of today's technological enhancements are realized by all, but we already see that this is simply not the case. The developed world is racing ahead at an exponential rate, yet many of our colleagues in under-developed regions are still unable to achieve basic minimum standards of technological implementation. This prevents them from being able to make best use of systems in order to enhance working practices and ultimately improve the welfare of the prisoner. However, we lack an oversight of technical disparity in prison services worldwide. The ICPA-survey presented in this report tries to fill this gap in knowledge.

2. Aim

The aim of the survey was to try to establish the different stages of technological innovation across prison services globally, to identify where gaps were present, and ultimately allow the ICT experts within ICPA and Europris networks to see where future efforts may be directed to assist those who require help or advice.

The main theme of this survey is on the management of prisoner information, an essential foundation for the smooth operation of a prison regime and for promoting the safety, security and welfare of prisoners. The Standard Minimum Rules on the Treatment of Prisoners also states the necessity for a

system of registering information; however the functionality and effectiveness of the various systems in place can vary greatly.

The United Nations Office on Drugs and Crime (UNODC) compiled the *'Handbook on Prisoner File Management'*, and as far as reasonably practicable, this questionnaire refered to the categories used in this document (See Annex A – Prisoner Information Categories).

3. Method

The formal and informal networks of ICPA and EuroPris were used to assess prison services around the world in early 2016. In total, 105 countries / jurisdictions are asked to take part by contacting the Head of Service and International Liaison points of contact copied where available. The survey was first sent on the 26th November 2015. A reminder on 16th January. Some individual follow ups were made. The last response was received on 14th March 2016.

The secretaries of both organizations received responses. Besides the authors of this report, the data will not go outside ICPA and EuroPris. Detailed data was submitted by different jurisdictions around the globe. These participants can contact the secretaries of ICPA or Europris for specific results in order to contact other jurisdictions or countries. By doing so, prison services are able to learn and share experiences. In this report, no countries are mentioned for anonymity reasons.

The survey was completed via a document (.docx format) and was send via email. If respondents had difficulties with understanding any of the questions or require clarifications, they were offered support by ICPA or Europris. The questionnaire was only available in English.

Of all contacted countries and jurisdictions (105 in total), 36 countries/regions responded to the questionnaire. Responses were received from every continent. Furthermore we categorized the countries into their 'stage of development' according to the UN[2]*: developed (24), developing (9) and transition (3).* In the map below the countries are displayed from which we received responses. Prison and correctional services responded from all around the globe. Some services are nationwide, some are regional organized. So if a country is colored red, it is possible that only one regional service responded in that country and not all regional services within that country. That is not necessarily problematic, our aim is to get an idea where services stand in the world of technology, not to get an fully representative picture.

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[2] World Economic Situation and Prospects (WESP) definitions – United Nations: DESA development policy and analysis division
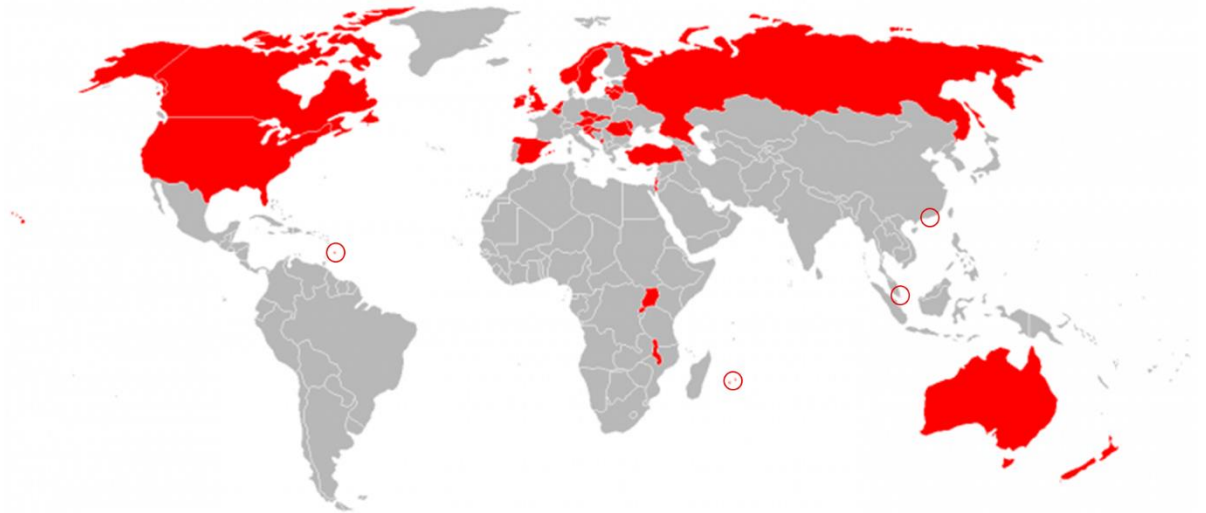
Figure 1: countries from which prison services responded to the ICPA/Europris survey

All responses were entered into SPSS for data analysis. The results are reported in the next section.

4. Results

In the coming pages you find the descriptive analysis of the survey responses. The dataset does not allow for explanatory analysis (because N=36 only). We present the results in sections.

4a. Methods of collecting prisoner information

Prisoner information can be collected in various ways. Most countries use both paper and electronic methods. Some work completely electronical, some use paper only. Most countries that work fully electronically are found in the category 'developed countries'. Electronical information systems are found on every continent and in all stages of development.
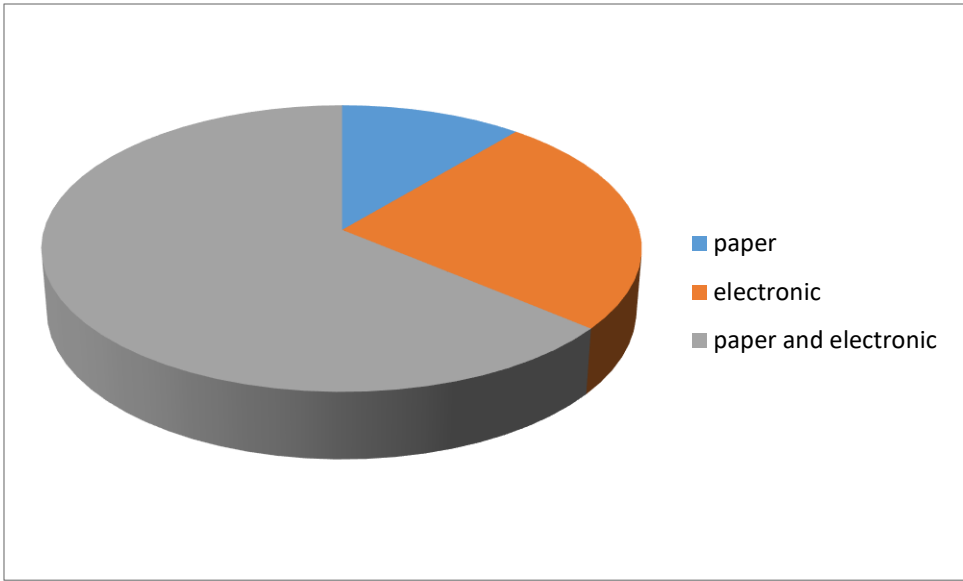
4b. Levels of recording and collating statistical information of prisoners

Information is recorded and collated on different levels. Most countries collate and record information on the local, the regional and national level.
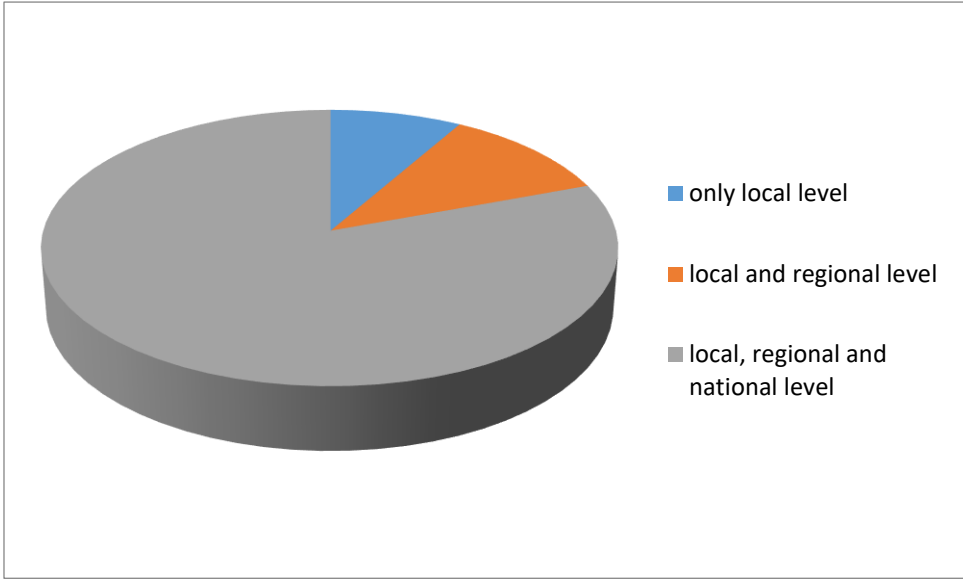
4c. The method of recording and collating

Most countries record and collate prisoner information on paper and in electronic systems. The paper-based response is given by a developing country, the fully automated responses are given by developed countries.

- only paper-based
- combination of paper-based and electronic system
- fully automated and electronic system
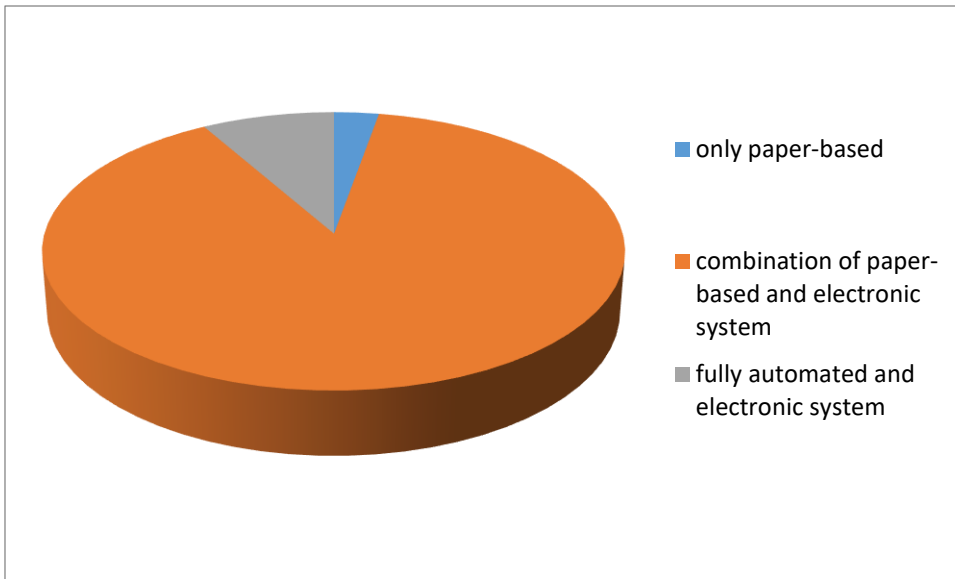
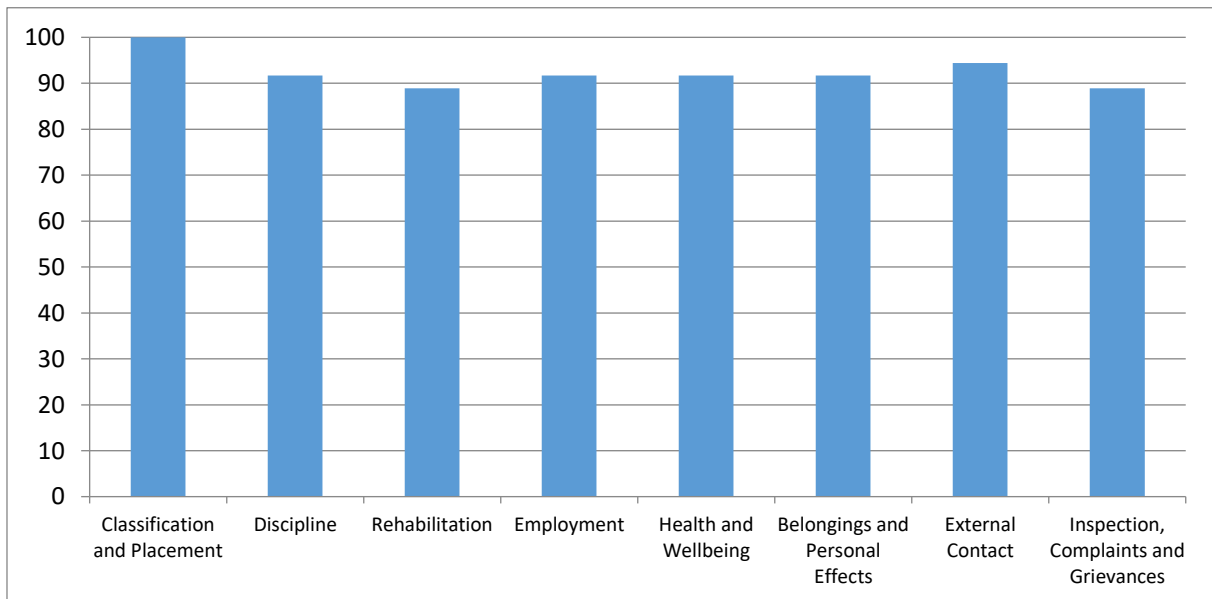4d. Different types of information are collected

The responding countries responded that they collect different types of prisoner information. Classification and placement is collected by all respondents. The other types of information displayed below are mentioned by approximately 90% of the countries.

4e. Names, regulations and purposes of prisoner information systems

Offender management systems have different names around the globe. Examples are: PMSWeb / SIIMAMP (Romania), PR2(Scotland), PRIS (Montengro), Offender Database Management System (ODMS, Barbados), The PRISM system (North Ireland), and UYAP system (Turkey).

Several countries note that data entry follows external and internal regulations. Access to the applications is authorized only by internal regulation. "All prisoner information is collated in the Integrated Offender Management System (IOMS), however there are different parts of the system (e.g.

Probation, Psychology and Custodial) with some parts not available to all staff for legal/privacy reasons."

Many countries express that they want to run their systems fully digital, but they face legal limitations. "Paper records are still maintained to meet current legislative requirements". Furthermore, some countries have an integrated system that is used by many organizations in the justice sector. Exchange information with chain partners is an explicit goal of the operated system; "Between the authorities (Courts, Lawyers, Police etc.) we have an electronic workflow". Notable is the agreement among those organizations that the information in the integrated system is perceived as "Single point of truth".

One country expresses another vulnerability and refers to the 'shit in is shit out principle': "The officers input the information and are vital in the process to ensure the information is accurate."

Many applications of the offender management systems are mentioned by the countries. An extensive response was: "Adjudications, Biometric enrolment and identification of Visitors and Inmates, Cell Movements, Child Centred Visits, Compassionate temporary release, Conditioned Early Release, Custodial details, Discharge Procedures, Drug testing, Healthcare, Home leave, Inmates personal record, Inmates personal cash and earnings, Offender Levy , Offender Management, Requests/Complaints, Rule 32, Safer Custody, Scenes of Incidents, Security, Scheduling inmates activities, appointments and movements, Secure Image Management, Transfers, Tuckshop, Unlawfully at large, Victims, Visitor Bookings"

4f. Prisoner Information Management System's maturity

The respondents were asked to assess the maturity of their offender management system. Below the reactions are displayed (percentages, respondents may have chosen more than one answer category). Almost 40% of the responding countries indicate that they have some form of paper-based records that are manually transferred. Among those respondents there were relatively many countries ' in transition' or 'developing'.

Almost 45% of the responding countries say that they have a fully centralized data sharing system that allows for inter-agency exchange. Most of these countries are found in the group of 'developed' countries.
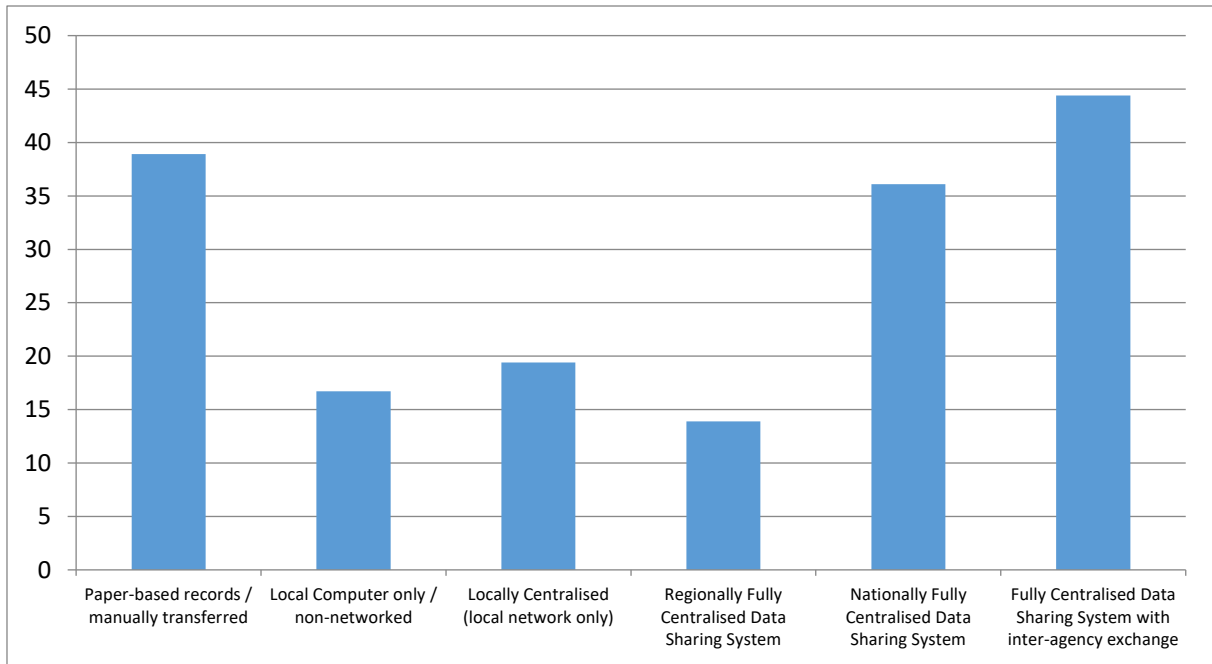
4g. General satisfaction with current system

Satisfaction with current arrangements for managing offender information (mean is 6,9). On average, countries in Europe and Oceania are the least satisfied. Furthermore countries that fall into the category 'developed' are least satisfied (mean = 6,4), followed by 'developing' (7,8) and 'in transition' (8,3).

Below the means per continent are given. Most satisfied countries are found in Asia and North America.

Africa	7,0
Asia	8,4
Europe	6,4
North America	8,3
Oceania	6,2

In the subsection below we report on possible reasons for high or low satisfaction by asking respondents on plans for changing their system.

4h. Plans to change management information system

The countries were asked whether they are looking for renewing, replacing, improving or introducing change in the way they manage offender information. 78% indicated that they were looking to change.

plans for change   no plans
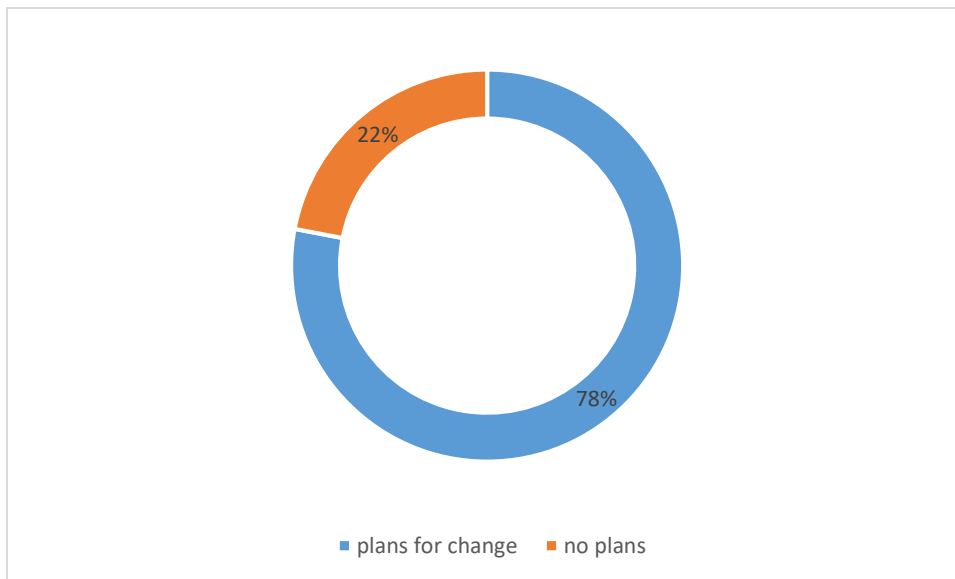
We asked details on the intended changes if the countries indicated to have so.

Extending current systems

Some countries mention their need for changing their information systems in light of a lack of precision in the current situation, e.g., mistakes with calculating the sentence execution period / end date. Furthermore, countries seek for new possibilities in their systems. For example, they want to automate and centralize management of all information pertaining prisoners in custody countrywide. Others wish to extent and improve functionalities, and want to install a module of statistics compilation. And: "In present, the data are stored in local databases and, using a synchronizing mechanism, they are replicated at headquarter. We want to change that and work on a central database and central application."

Legacy   systems: update   or   replace?

Countries that have a longer tradition with computerized offender information systems, lament the disconnection between old software capabilities and new hardware developments. "We need a new system that does not rely on outdated Oracle Forms and database. We want to move to Service Orientated Architecture (SOA)"

The so called *legacy systems*, aged computer systems or applications that are no longer efficient or compatible with new technology, are a serious torment for many correctional professionals worldwide. "The current application is now more than a decade old. It does not easily lend itself to modern day requirements regarding mobility and agility."

These countries ponder on what to do, another costly update or future proof replacement of the whole system. "Enhancements are made every year to improve its capability, however enhancing a large complex application with such a long history is expensive and time consuming. While legislative changes and important business initiatives are delivered many lower priority functions and features will never be realized. Currently there is a major program of work underway to transition IOMS to a web interface to extend the life and improve the performance of the application. In addition work is planned to investigate remaining on this bespoke application or transition to a commercial package."

Countries have considerable expectations of new systems. "The new system, together with the use of mobile handheld devices and RFID technology [radio-frequency identification], will enable us to streamline our workflow process, enhance the overall operational efficiency, strengthen penal security, and provide a holistic view of the [inmate's] information." Countries seek for connection with modern devices in society and want to take multiple steps at once when renewing an offender information system. "The new system will replace all of the existing systems in favour of a single, integrated Offender and Parolee Management System with Integrated Electronic Health Records. The new system will be web-based and support mobile platforms including iOS and Android. The new system will allow for the end-to-end management of Offenders beginning at intakes through discharge."

Countries were asked to reflect on the first thing they would change in their offender information system. By asking we were expecting to get an idea of what the most pressing issues in their systems look like. The following are some of the main issues that were mentioned.

Solve dysfunctionalities

Some countries refer to partial dysfunctionalities that cause problems in offender information management. For example, records sometimes appear twice in systems; "The record would commence further upstream – with Police to avoid duplicated data entry". According to some respondents data errors may be prevented by adjustments to their offender information management systems. "Implement a system that is able to drive user action to avoid the most errors and improve data reliability. Incorporating detection of errors in data entry." One country notes that staff should be trained better for data entry and documentation. What may help is to "improve the look and feel of the system" as is suggested by another responding country.

Modernization: integrated systems

To make an integrative system possible, "improved technology infrastructure (e.g. availability, network coverage and bandwidth improvement) have to [be] carried out first in order to enable us to have a timely access to the comprehensive repository of information." And: "Update the current IOMS platform to a more modern, integrated and user friendly system. For example, the application was not designed to manage such PDF documents."

4i. Difficulties in managing offender information

Budget difficulties are the main problems for improving information management systems around the globe. No significant differences were found between stage of development: budget can be problem anywhere. However, relatively few countries in Asia and Oceania mention budget as a difficulty to manage offender information.

Infrastructural limitations are mostly found in transition and developing countries.
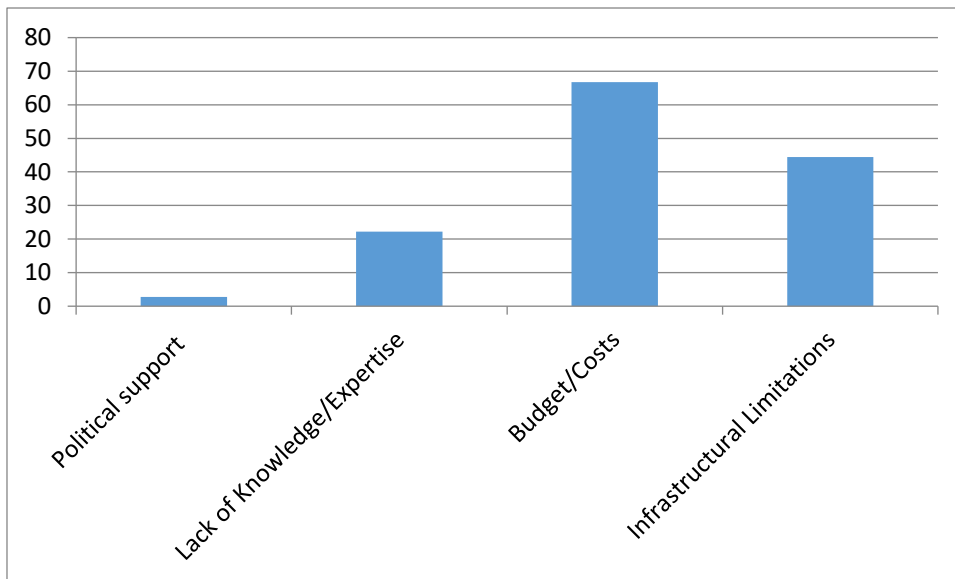
4j. Use of prisoner information

Prisoner information is used for different purposes. In the figure below we report on those purposes. We found no big differences between stage of development of continent.
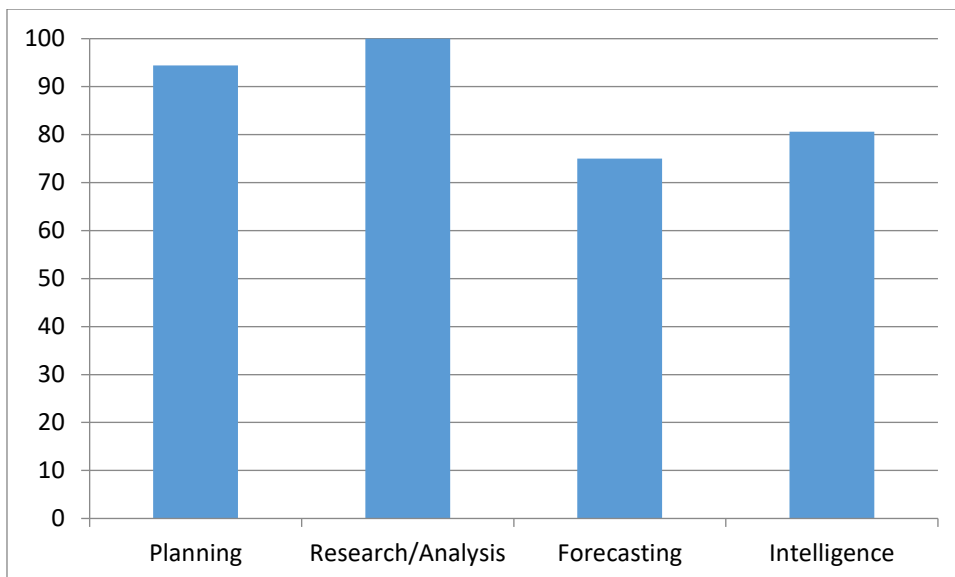
4k. Sharing information with third parties

Of all responding countries, 89% reported data collected is shared with third parties. Most countries share the information with the police, courts and probation. We found no big differences between stage of development of continent.
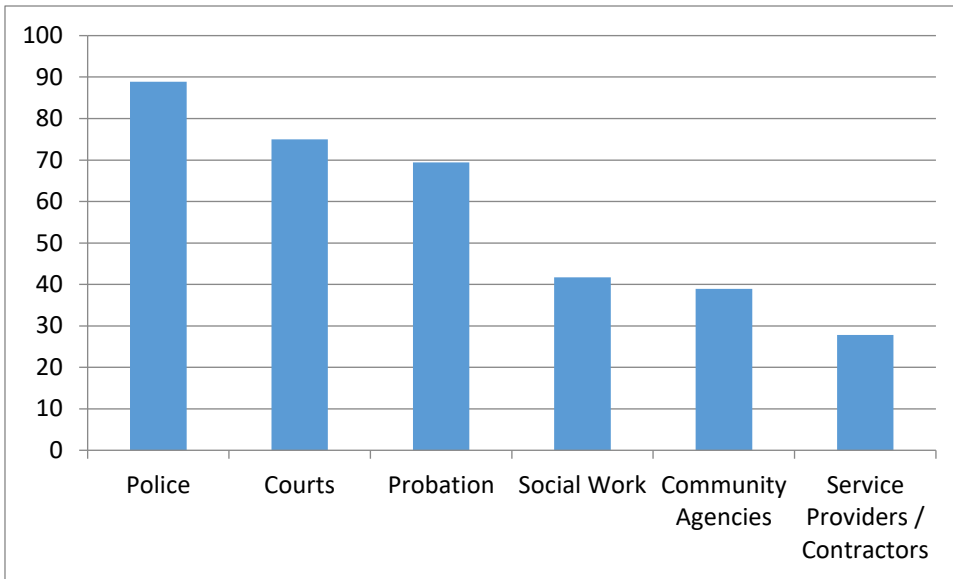
4l. Other technology services

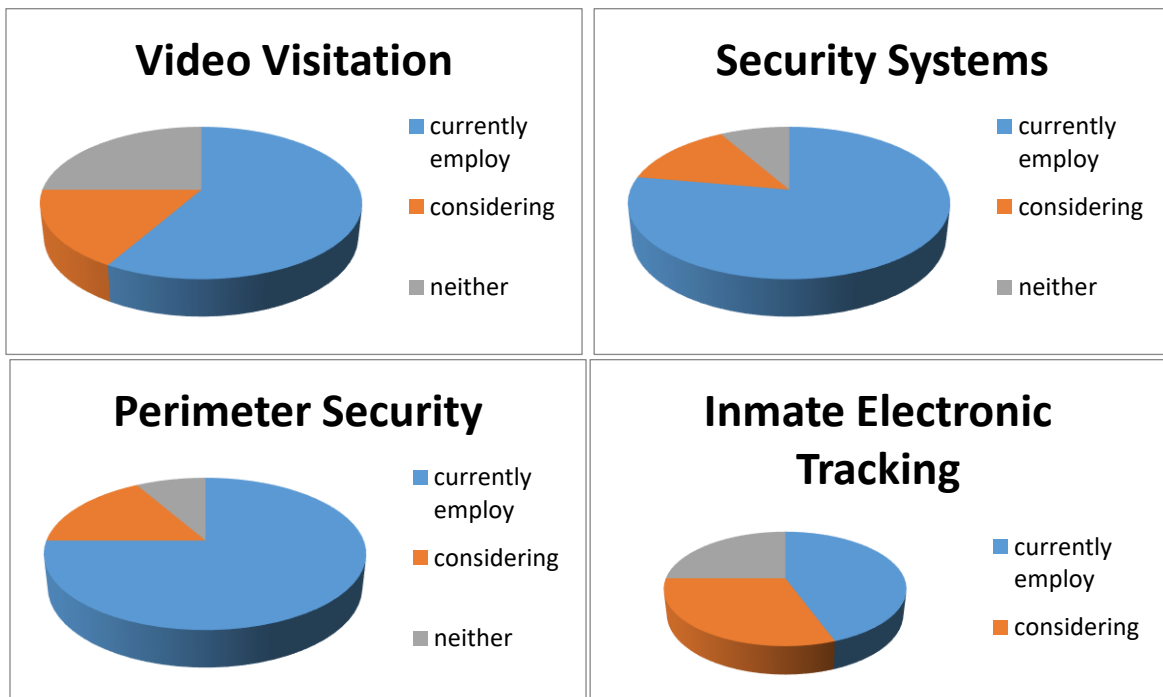Next to prisoner information management systems, countries use technology for multiple reasons. We asked whether they employ (or considering implementing) the following systems: video visitation (mostly employed in developed countries), security systems, perimeter security, inmate electronic tracking, telemedicine (mostly employed in developed countries), computerized catering services, electronic staff and inmate communications, closed circuit television (CCTV), healthcare/telemedicine, and e-learning systems (more frequent found in developed countries).

Telemedicine

- currently employ
- considering
- neither

Computerized Catering Systems

- currently employ
- considering

Electronic Staff Communications

- currently employ
- considering

Electronic Inmate Communications

- currently employ
- considering

CCTV

- currently employ
- considering
- neither

Healthcare

- currently employ
- considering
- neither

E-learning Systems

- currently employ
- considering
- neither

4m. Finance and governance

We asked whether the IT-budget changed in the past three years. Noteworthy is that particularly developing countries increased their IT-budget. Most responding countries from Africa and Asia report an increase in their IT-budget.
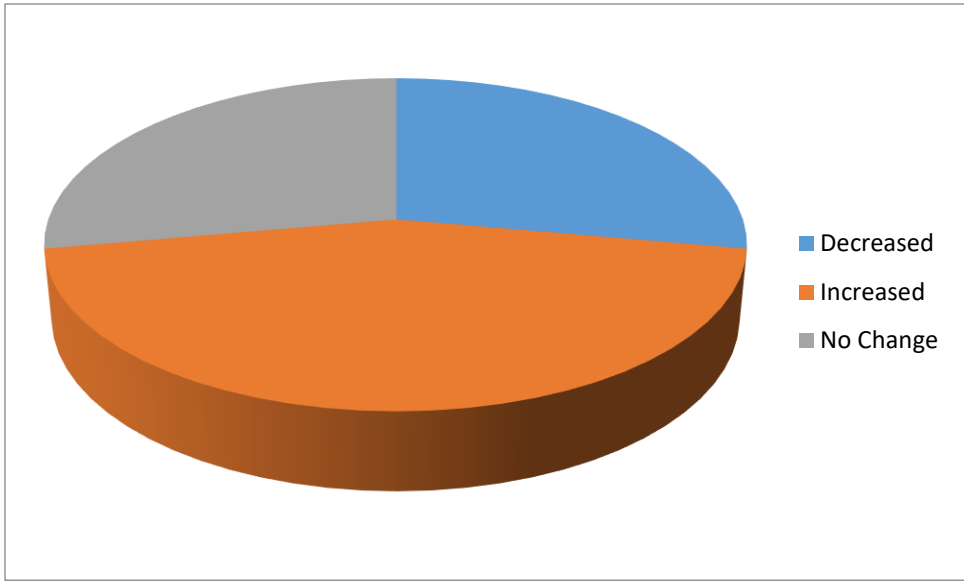
The responding countries stated that 86% of them employ a chief information, 89% of the countries have in-house IT support service and 53% employs a Business Analyst.
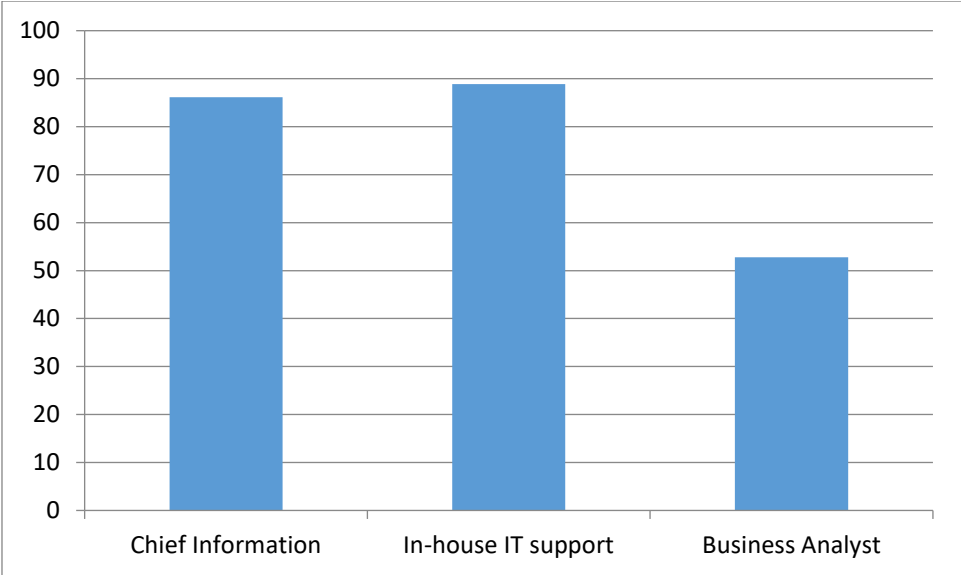
4n. Cooperation

Sharing for management

The countries are being asked whether they receive or provide cooperation from other parties concerning their offender information management system. 72% indicated they received or provided cooperation with other Public Sector bodies or other external/third party agencies regarding the development of the Prisoner Information System. Many countries expressed that they had a shared-use agreement or contract with chain partner organizations in the justice sector. A first modality is that organizations share information systems to manage operations. "Data exchange occurs with upstream and downstream justice agencies and also social security and debt management." Another country responded: "It is carried out in collaboration with Consulate with police forces and state security, with healthcare, the courts, social services" and (another responding country) "Cooperation with the State

security Forces and Bodies, Penitentiary Surveillance Courts, Gender Violence Units, Ombudsman, State Attorney, International Legal Cooperation Unit, Embassies and Consulates."

One country gives an example of how other parties provide offender information into the information management system of the prison service: "when the court decides on the prison, all data on the prisoner comes into our information system in electronic form". Some countries even have a special "Integrated Criminal Justice initiative with […] Court Services, […] Police Service and Department of Communities, Child Safety and Disability Services for the exchange of criminal justice information. There is also some limited infrastructure and information sharing with […] Health [organization] who are responsible for delivery of medical services to the prisoner population." Another country describes that they are developing interfaces to other systems for the sharing of information including: […] Criminal Justice Information System for the sharing of crime data with the courts, and […] Regional Health Information Organization for the sharing of electronic health records. We anticipate many other interfaces for the sharing of criminal justice and Offender data with agencies, community partners and law enforcement."

Sharing for intelligence

Some countries express that they also share information for reasons of intelligence. [The prison service] "works closely with other Ministries, Departments and Agencies especially members of the Justice, Law and Order Sector (JLOS) in delivering justice for all, custody and rehabilitation of offenders, maintaining peace and security in the country, etc." Collaboration is also used in order to set standardization of common data definitions in Justice Sector agencies (Corrections, Police, Justice). Many countries express that collaboration is promoted because a central government party is in charge of IT services and support: "the Department of Internal Affairs in their role as [..] Government functional ICT lead."

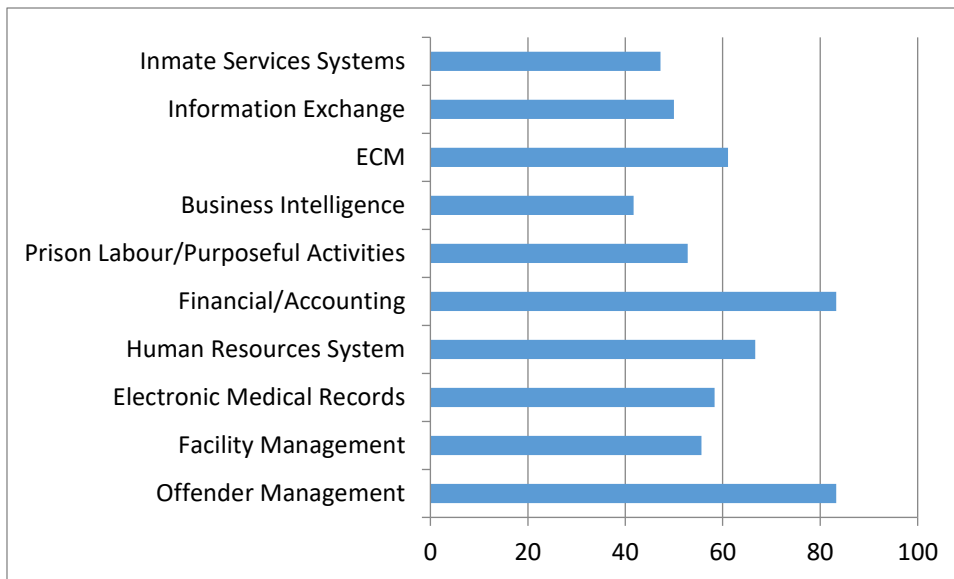*Sharing for accountability and benchmarking*

Cooperation with third parties is also organized to give account. "Information is shared with The Ministry for Information Society, Ministry of Justice, and cooperation with the IT sector from the Ministry of Justice."

Finally, international sharing (and benchmarking) of information is mentioned: "We cooperate with international agencies such as Europris, ICPA, EPEA".

89% of the respondents indicated a willingness to share technological best practices with other jurisdictions.

4o. Enterprise architecture

In the survey we asked which of the following electronic systems does the service currently employ within its enterprise architecture (Organisation – Ministry – Department – National - wide digital strategy). Enterprise content management is abbreviated (ECM). The results indicate that offender management and financial systems are most common used.

A bar chart showing values for the following categories:
- Inmate Services Systems: ~48
- Information Exchange: ~50
- ECM: ~60
- Business Intelligence: ~42
- Prison Labour/Purposeful Activities: ~53
- Financial/Accounting: ~83
- Human Resources System: ~66
- Electronic Medical Records: ~58
- Facility Management: ~56
- Offender Management: ~83

(X-axis: 0, 20, 40, 60, 80, 100)

5. Conclusions

This survey gives insight in technological developments in 36 countries and prison jurisdictions from all over the globe. It appeared that most prison services have some form of electronic prisoner information management system (sometimes in combination with paper based methods). Most services are able to share and aggregate information to the local, regional and national level. Full electronic workflow is not possible everywhere; sometimes paperwork is obligatory by law.

Offender management systems are commonly used for multiple purposes. For example, classification and placement, discipline, rehabilitation and employment. On average, prisons services are satisfied with their offender management system and they value the system with a 6,9. However, there are big differences, in Asia and North America, prison services are much more satisfied with their systems than in Europe and Oceania. The interpretation is rather difficult here: a satisfaction score may mean something different for countries that are used to computers for decades than for countries that recently have experienced the benefits of technology.

Of all responding services, 78% is willing to change their offender management system. Mentioned reasons for change are a lack of accuracy in current systems, desire to automate and centralize management of information, and extending and improving functionalities.

Noteworthy is that many *developed* countries ponder on whether they should renew or replace their technological systems. Those prison services often have a longer tradition with technological applications and now face legacy systems. Furthermore, *developing* countries are often more satisfied with their technological systems, probably because these were implemented more recently and benefit from, for example, newer software.

Most prison services share information with third parties, mostly police, courts and probation services. A future step for many prison services is to dispose of integrated information systems. In such systems, multiple organizations use the system and its information and there is a single point of truth and no double administrations. Those investments may be costly but the benefit can be considerable.

Besides offender management systems, the respondents were asked to report about other technology they use (or considering) in their organizations. Video visitation is more frequently found in developed

countries. Inmate electronic tracking seems quite common in Asia, North America and Oceania. In Europe 50% of the respondents employ it, the rest of the European respondents is considering it to implement. Telemedicine and E-learning is more frequently found in developed countries. Computerized catering systems seem not to be very common in prisons services around the globe. Closed circuit TV is found all over the globe although some services still don't have it. Those countries do not cluster in continents of stages of economic development. Electronic staff communications are quite common while inmate communication are not. These countries/services do not cluster as well.

Finally the development in IT-budget was assessed. Respondents from Africa and Asia report to have more ICT budget in coming years. In Europe, about 70% of the respondents report no change or a decrease in IT budget. Overall, half of the responding services report that their IT-budget is increasing, a quarter reports no change and another quarter reports a decrease in IT-budget.

ANNEX A – PRISONER INFORMATION CATEGORIES

Activity	Information to obtain and record
Classification and placement	• Sex of prisoner • Age of prisoner • Criminal record • Legal grounds for detention • Prisoner category • Cell and block allocation
Discipline	• Nature of transgression • Investigation and sanction imposed • Prisoner's defence and/or appeal
Rehabilitation	• Individual needs assessment • Treatment programme • Progress reports
Employment	• Employment details • Earnings received • Earnings spent
Health and well-being	• Medical examination report • Medical treatment and medication prescribed and received • Hospitalization and transfers to medical wings • Inventory of clothing provided • Dietary requirements
Belongings and personal effects	• Inventory of personal belongings placed in safe custody, including signature of prisoner • Receipt of belongings returned to prisoner on release
External contact	• Prisoner contact with family • Prisoner contact with legal counsel • Prisoner contact with consular representatives • Prisoner contact with an interpreter • Notification of family in cases of serious illness or injury • Notification of family in cases of transfer
Inspection, complaints and grievances	• Requests or complaints received from prisoner or counsel • Investigation of request or complaint and action taken by authorities • Findings of inquiries into deaths or disappearances in custody

Source: UNODC Handbook on Prisoner File Management, https://www.unodc.org/documents/justice-and-prison-reform/Prison_management_handbook.pdf

Authors

Toon Molleman, PhD., is an advisor for the Dutch Custodial Institutions Agency. The last decade he published on a wide range of prison related topics, among which performance measurement, prison conditions and prison staff. He also is a member of ICPA's research and development committee

Rianne van Os, Msc., is business controller for the Dutch Custodial Institutions Agency. In her work she focusses on improving performance measurement and benchmarking. Furthermore, she conducted several scientific studies in recent years on, for example, legal aid and dispute settlement, and return of rejected asylum seekers.