



Vlaamse
overheid

Human-centered justice in the digital era

EM as a future platform

14th EUROPEAN ELECTRONIC MONITORING CONFERENCE

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AGENTSCHAP
JUSTITIE &
HANDHAVING

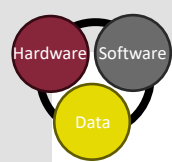
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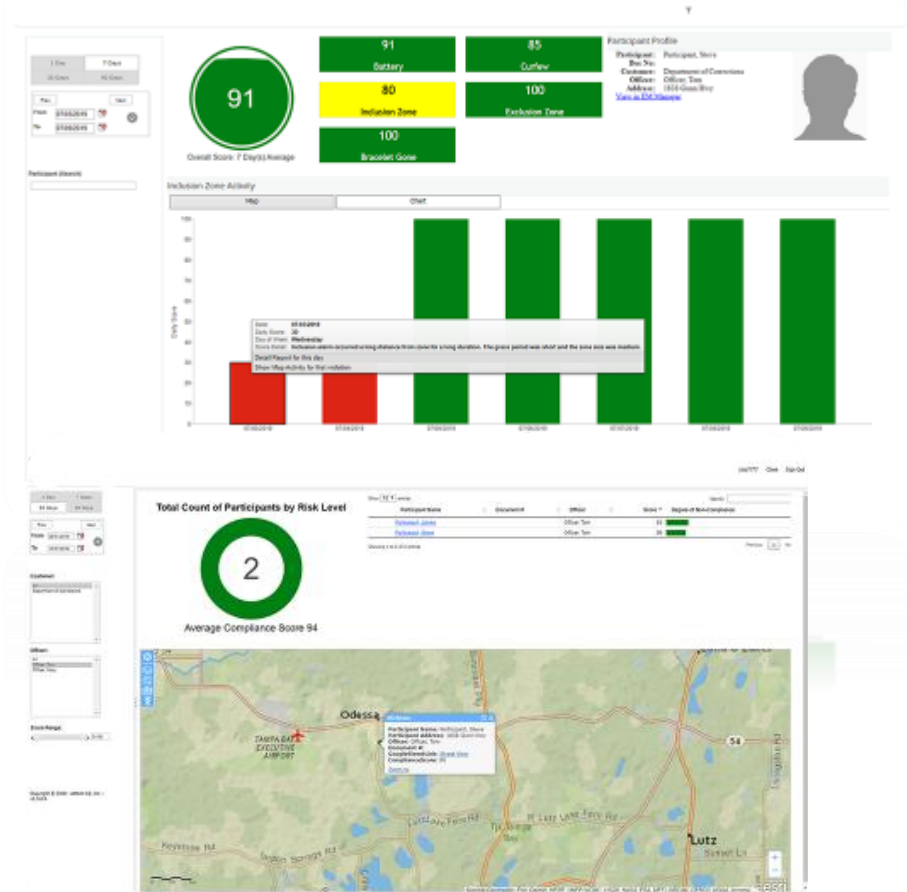
Evolving IOT hardware

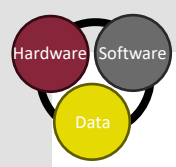
- ▶ Basic synchronisation with base station
- ▶ Geolocation
- ▶ Unilateral and bilateral communication
- ▶ Large selection of sensors available: motion, heat, conductivity, chemical traces in sweat or other skin secretions/excretions, ...
- ▶ Haptic feedback
- ▶ Micro-delivery systems



Evolving Software

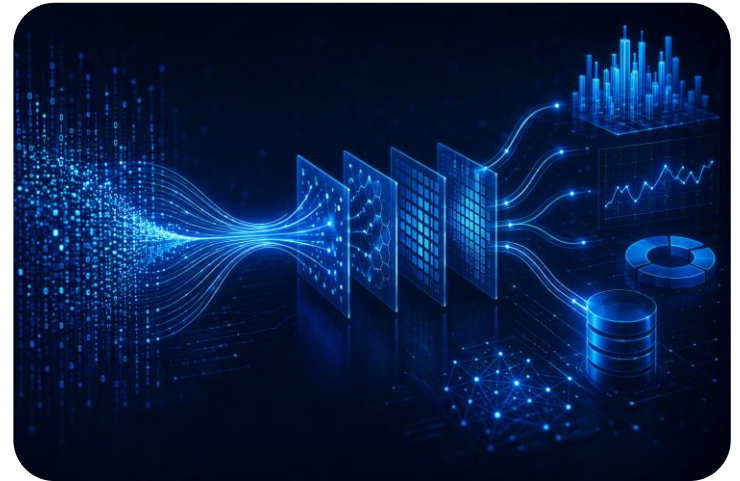
- ▶ Graphical user interface on different platforms
- ▶ Exposable APIs
- ▶ Management functions
- ▶ Remote device monitoring
- ▶ Remote device interaction





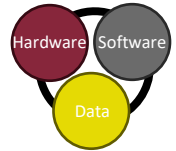
Expanding Data Opportunities

- ▶ Restraints, schedules, geolocation
- ▶ Substance traces
- ▶ Infringements
- ▶ Enriching data from
 - Legal case information
 - Social worker insights
 - Client's own input
 - Other life events or life domains





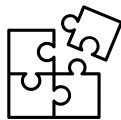
Future: a broadly integrated platform based on a data value stream



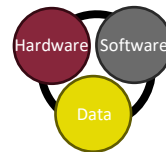
- ▶ Expanding measurements towards **biometric indicators** indicative of contextual **behaviour**: detecting risk and struggle
- ▶ Enabling enriched data with **external integrations**: mobile, wearables and external datasets
- ▶ Evolving from a technology that monitors or guards mobility towards a **platform that drives behavioural change** through:
 - Nudging and gamification,
 - Offering self-insight
 - Tailored external stimuli
 - Personalized coaching through recommendation engines
 - Dynamic and proactive preventive measures
- ▶ Human-centered by design for **4 audiences**:
 - **Clients** through self-insight and personalized guidance, also afterwards
 - Government **social workers** through behavioural insight
 - **Academics** through richer datasets
 - **Civilians** through preventive protection



Everyone deserves a chance at reintegration, but actually doing it is very hard. Most ex-convicts face a tough mix of money issues, lack of job skills, and social shame. Digital support tools can improve the chances of the willing, but they won't replace the other support services.



2 AJH R&D & pilot cases



GoodET: Optimized support and guidance for electronic monitoring

► Context

- ~2.000 people under electronic surveillance
- monitoring works reactively: event -> evaluation -> action

► Research question: **Can we quantify the chance that mandates need extra attention to prevent unwanted infringements?**

- Greater chance of problems, misconduct, administrative issues, ...

► Approach:

- Leveraging datascience and AI: discovering **patterns in mass of data**
- Proactively adjust guidance to **stay on a successful ET trajectory**



S2T: Speech to text for structured summaries supporting formal reports

► Context

- Justice assistants have a lot of conversations that need to be documented in a well structured report. This is labour intensive.

► Research question: **can we provide a tool that correctly captures the conversation and makes a well-structured representation for the justice assistant as input for the formal report?**

- Improving the quality of the conversation, the quality of the report and the efficiency of the personnel

► Approach:

- Leveraging audio capture, audio transcription and LLM's





EU Guardrails

- ▶ European Convention on Human Rights
 - ▶ European Charter of Fundamental Rights
 - ▶ European General Data Protection Regulation
 - ▶ European Law Enforcement Directive
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- ▶ European NIS2 Directive: securing network and information systems
 - ▶ European AI Act Regulation: a comprehensive legal framework for AI
 - ▶ European Cloud and AI Development Act Regulation



"In the middle of every difficulty lies opportunity."

Albert Einstein (1879 - 1955)