ISO 9001:2008 certified

ISO/IEC 17025:2005 accredited

ISO 17020 accredited

Trendid kohtuekspertiisis

Üllar Lanno
Eesti Kohtuekspertiisi Instituudi direktor

ESTONIAN FORENSIC SCIENCE INSTITUTE

Teemad

- Globaalsed Tehnoloogia trendid
- Optimaalsus ja tõendi tugevus
- European Forensic Science Area 2020

ISO 17020 accredited
ISO/IEC 17025:2005 accredited
ISO 9001:2008 certified

Teemad

Globaalsed Tehnoloogia trendid

- 2050 aasta areng
- Digitaaltõend
- Biomeetria
- 3D

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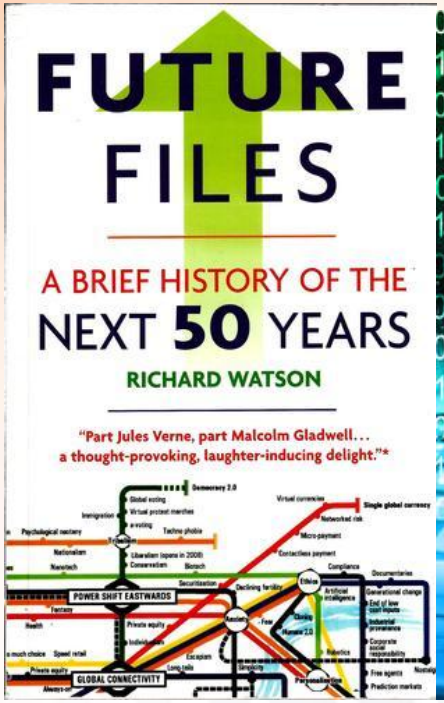
ISO/IEC 17025:2005 accredited
ISO 17020 accredited



TIME ZONES
ZONE 1: 2010-2015
ZONE 2: 2015-2020
ZONE 3: 2020-2025
ZONE 4: 2025-2035
ZONE 5: 2035-2050

Global risks*

*Low probability/high impact events that could derail any of the above trends and predictions

- Commodity price spikes
- Raw materials shortages
- Mass migration of population
- Nuclear terrorism
- Internet brownouts
- Electricity shortages
- Rapid increase in cyber crime
- Critical infrastructure attack
- Rogue stakeholder
- WMD Proliferation
- Green energy bubble
- Genetic terrorism
- Collapse of US dollar
- Global supply chain disruption
- Terrorist attack on urban water supply
- US/China conflict
- Israel/Iran conflict
- Bisphenol A link to cancer
- Geographical expansion of Russia
- Major earthquake in mega city
- Global pandemic
- Conflict with North Korea
- Political disintegration of Saudi Arabia
- Systemic failure of financial system
- Fundamentalist takeover in Pakistan
- Middle class revolution
- Collapse of China
- Mobile phone link to cancer
- Credit Default Swaps
- Rogue asteroid
- Major nano-tech accident
- Space weather disruption to comms
- Aliens visit earth
- Return of the Messiah
- People taking trend maps too seriously

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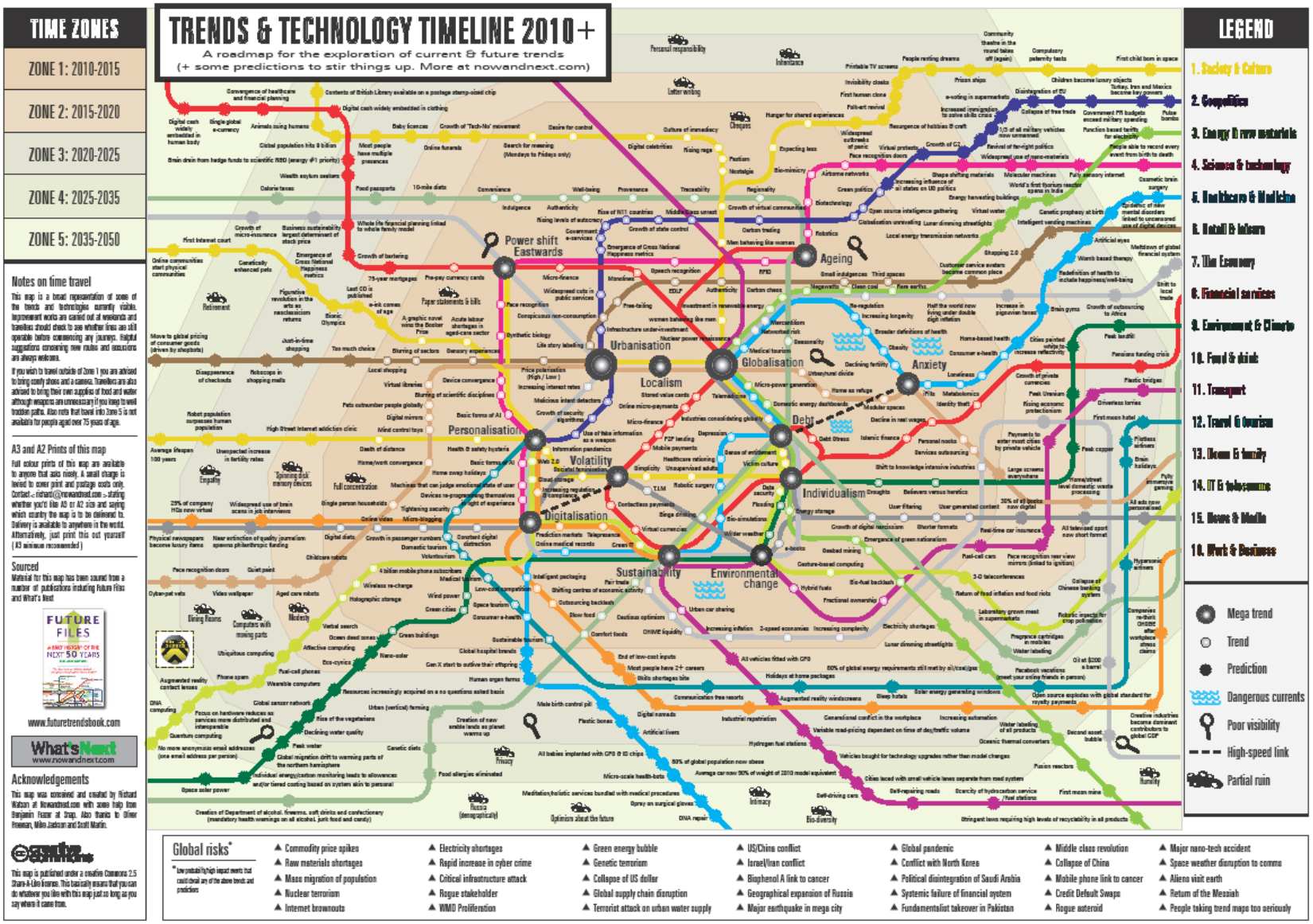
ISO 17020 accredited



http://www.futuretrendsbook.com/

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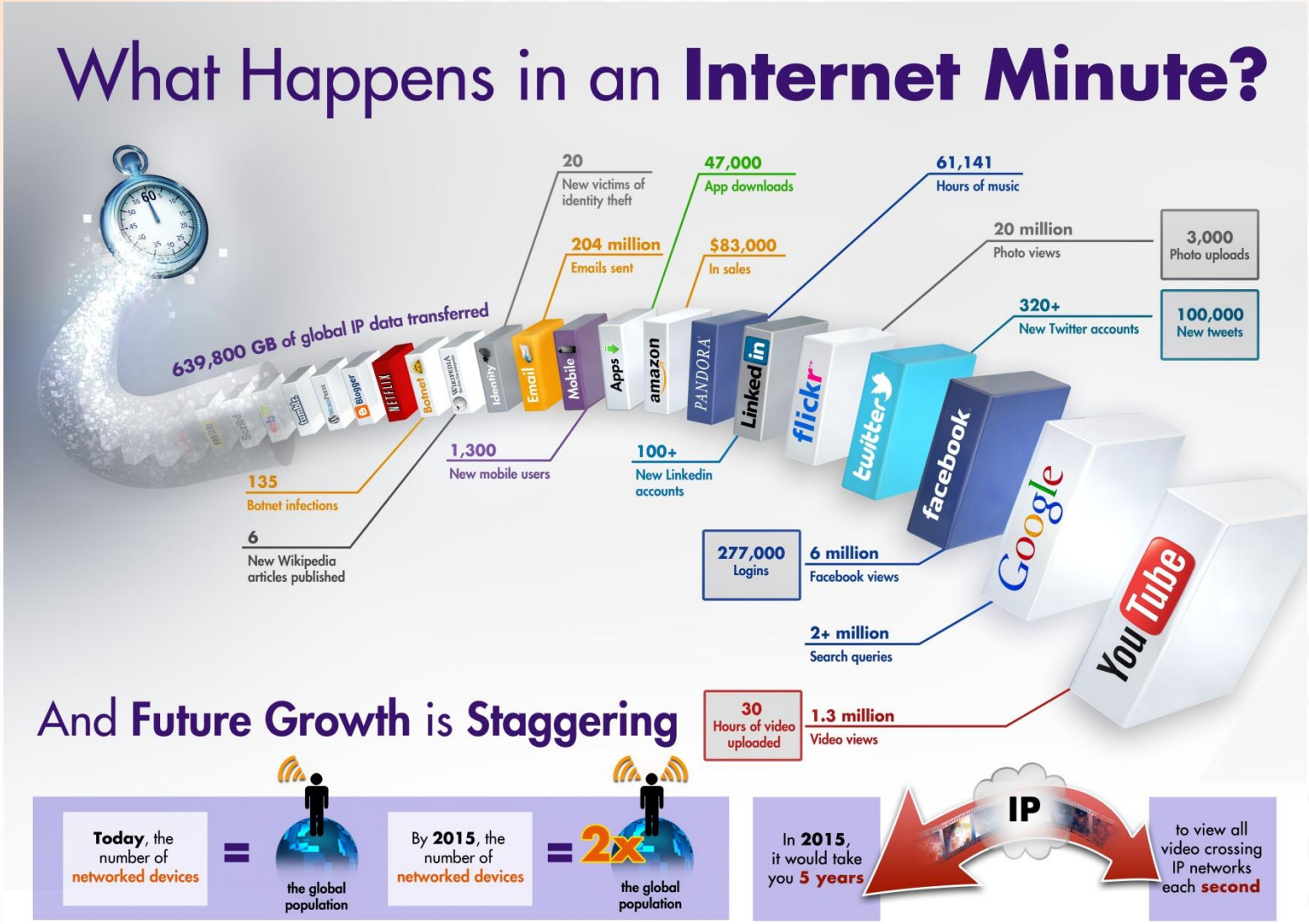
„Iga kontakt jätab jälje“



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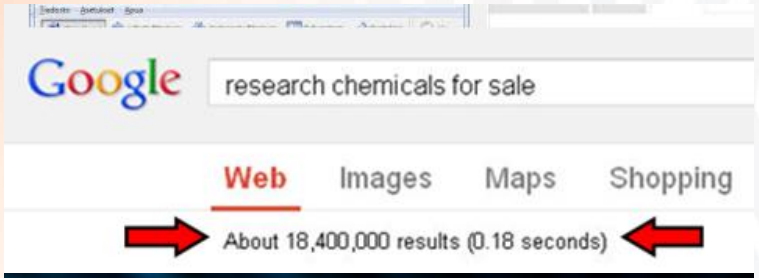
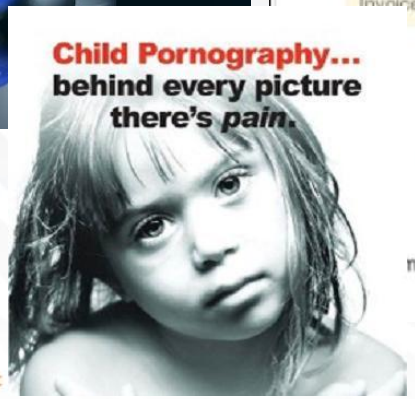
Digitaalsed ohud ja tõendid võrgus või sinu taskus





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ISO 17020 accredited

Digitõendite tõepärasus

Mitmed anti-forensic tehnikad jätavad manipulatsioonist jäljed tõendi digi-koodi:

- Kaamera ID
- Samapäraste andmebaasi võrdlus (Facebook, linnaruumi kaamerad)
- Videos ja kõnes sees ka muude avalike teenuste tunnused

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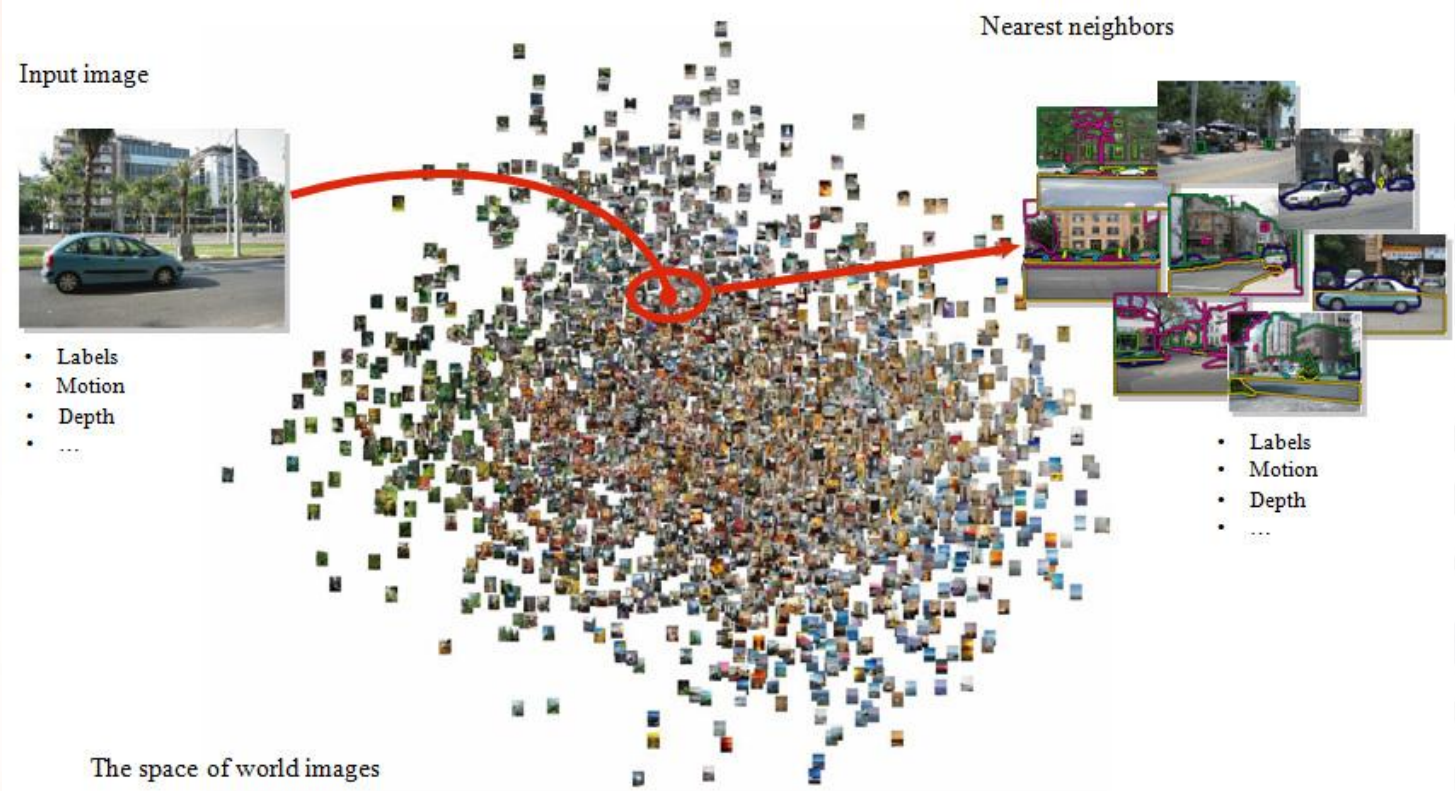
ISO/IEC 17025:2005 accredited
ISO 17020 accredited

Digitõendite otsimine suurest andmekogust

- Tarkvarad, mis otsivad sarnaseid kujundeid, pilte ja objekte
- Suurte andmekogude läbiuurimise uued tehnikad
- Erinevad kiirendid muutmaks protsessi tõhusamaks



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Küberjäljed „haihtuvad“

TOR – The Onion Router (3000 krüpteeritud arvutit süsteemis)

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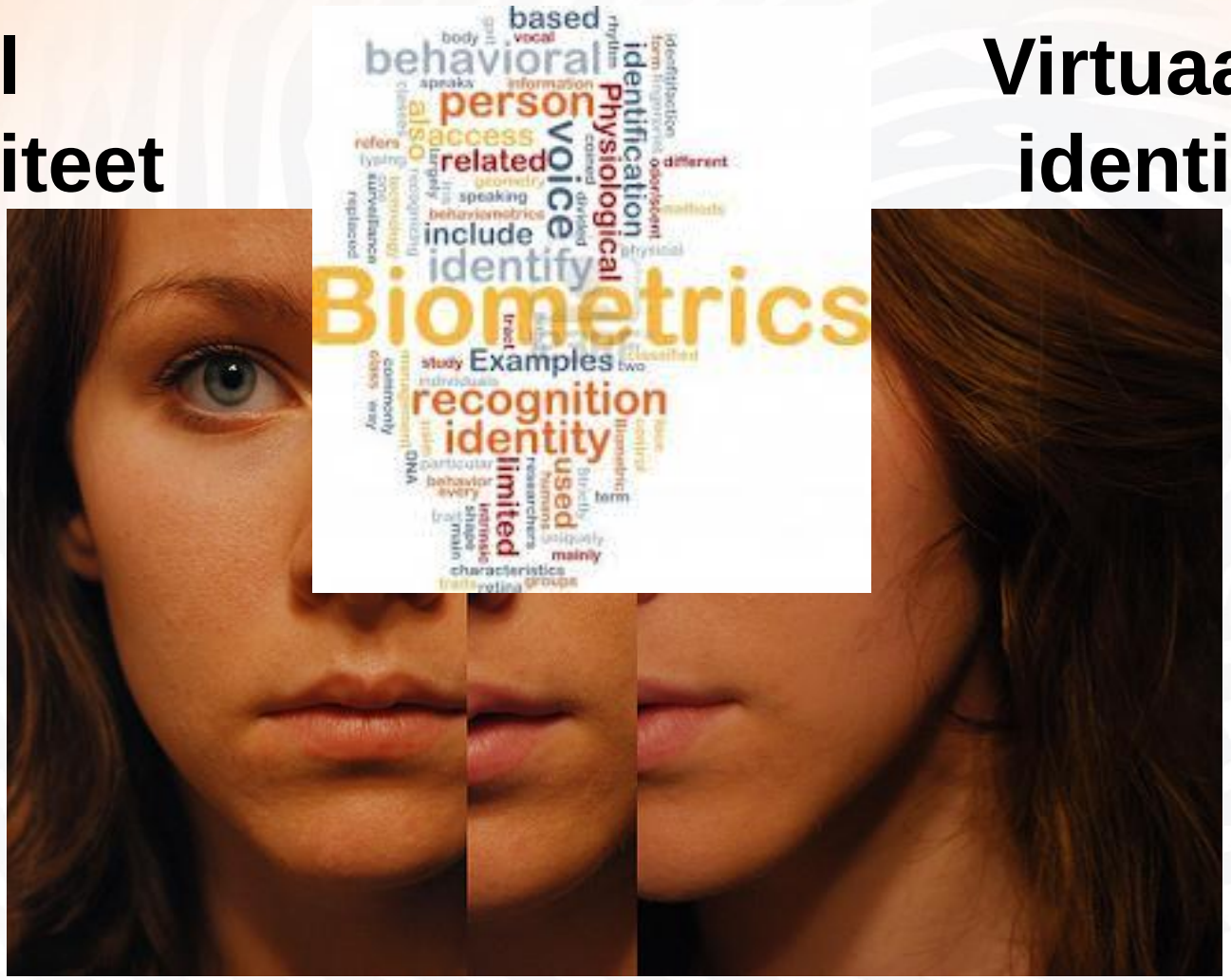
Reaal identiteet

Virtuaalne identiteet



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Iga isik on biomeetriline andmebaas

(Tehis-intellekt ja kloonitud inimene veel väljakutsed)

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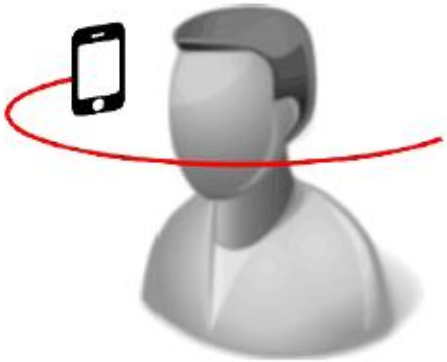
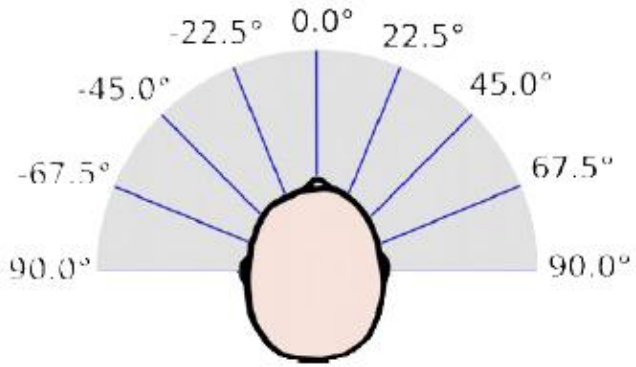
ISO 17020 accredited

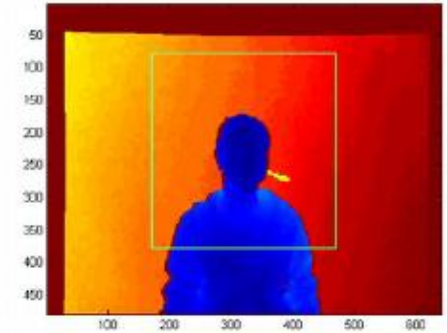
3D ja Energeetika lisanduvad Biomeetrilisele infole

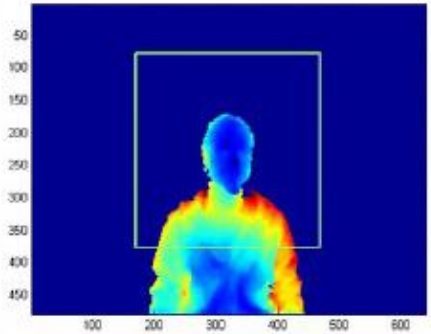
Face authentication

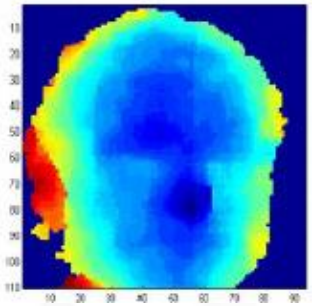
- Easy to circumvent with profile pictures
- Therefore move to 3D authentication











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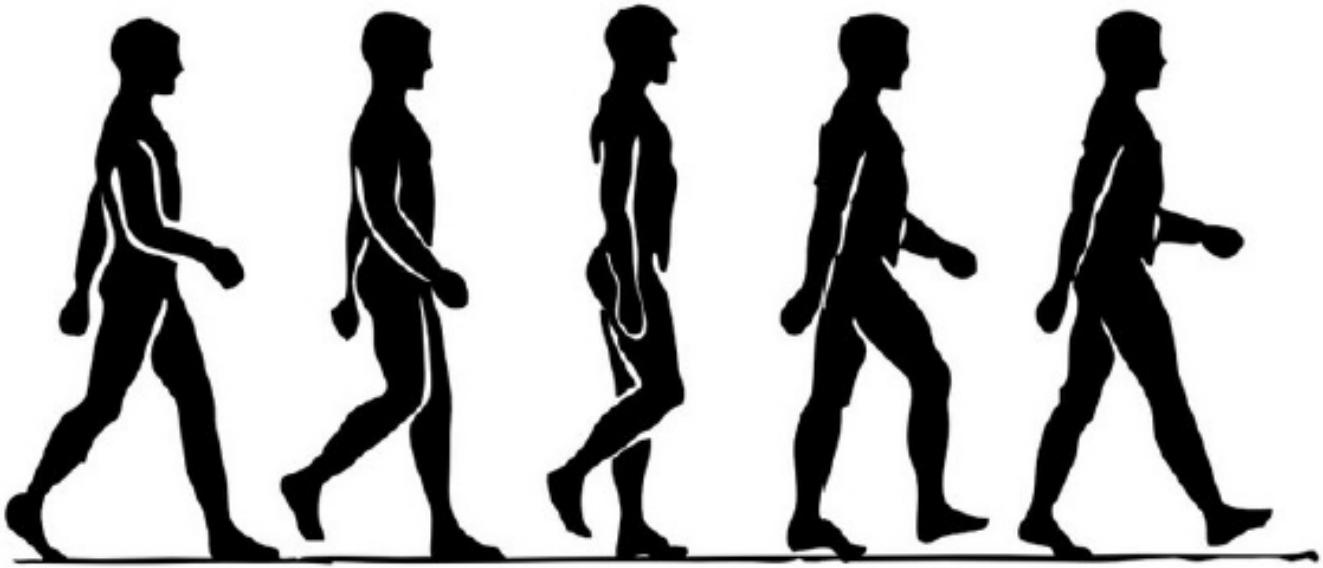
Dünaamika ja harjumused lisanduvad Biomeetrilisele infole

Gait recognition

- Recognize user based on acceleration patterns
- Unobtrusive
- For higher security levels only in combination with other methods



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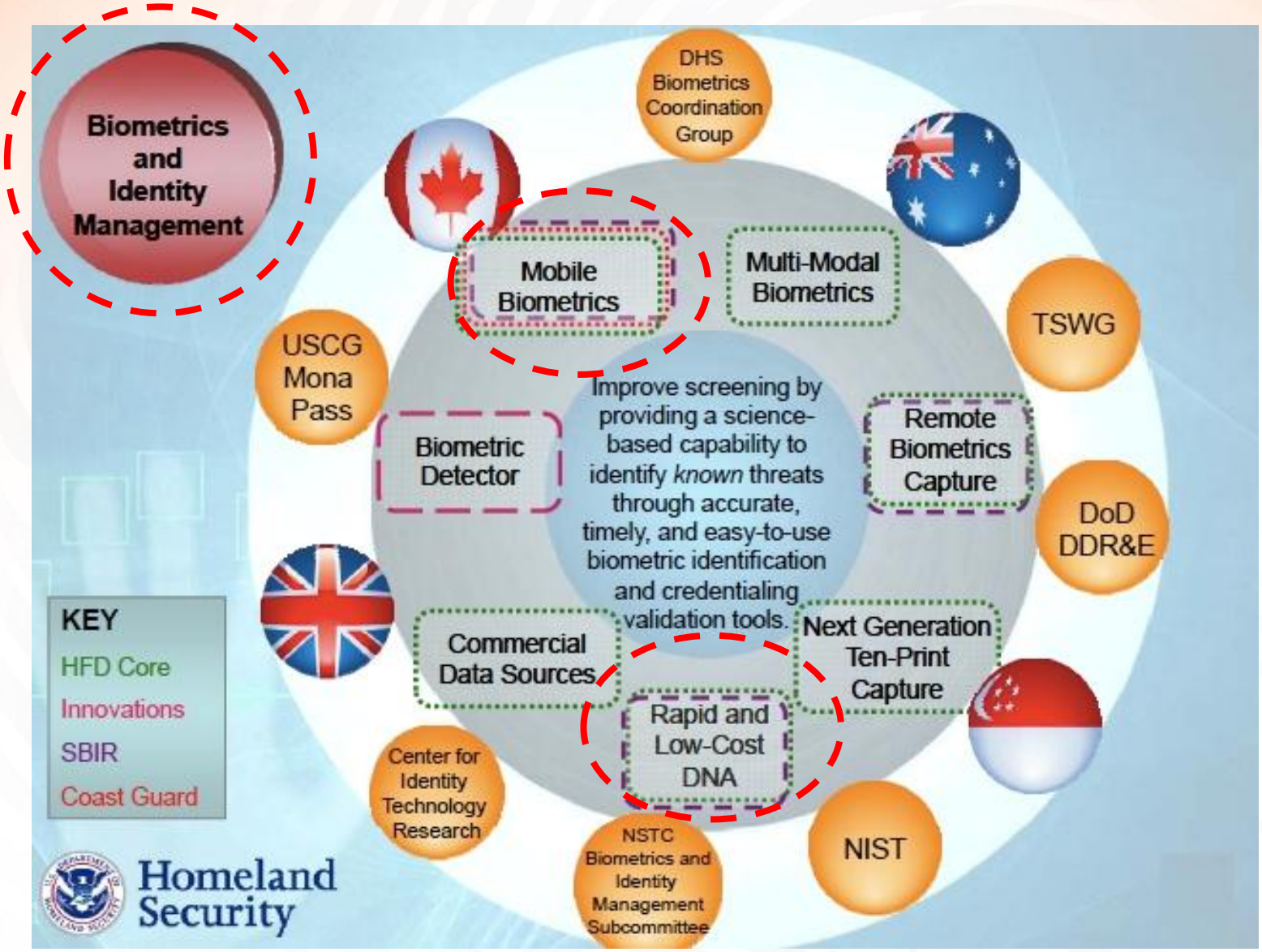
ISO 17020 accredited

Otse sündmuskohal ja mobiilselt



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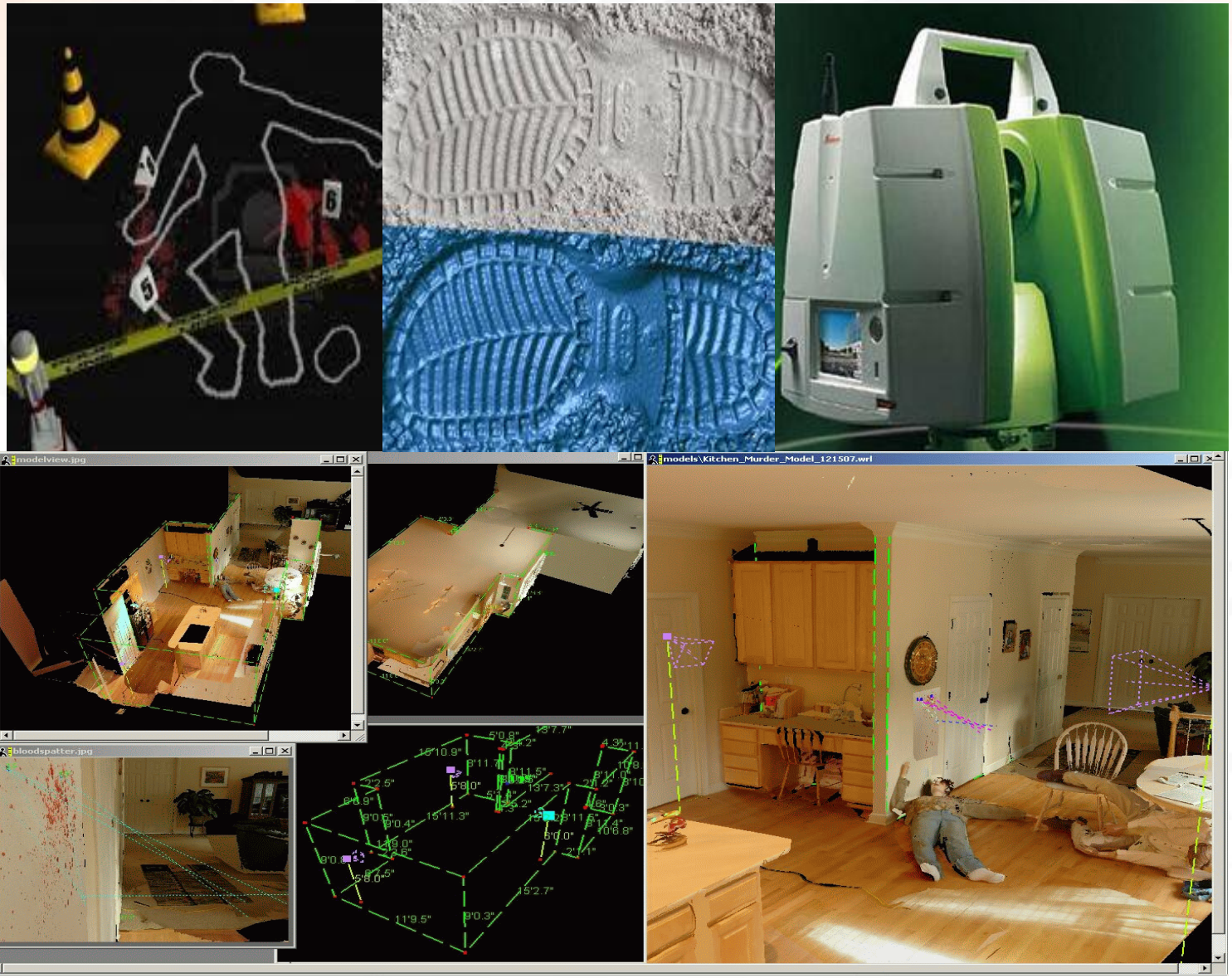
3D sündmuskohakaamera Eestis



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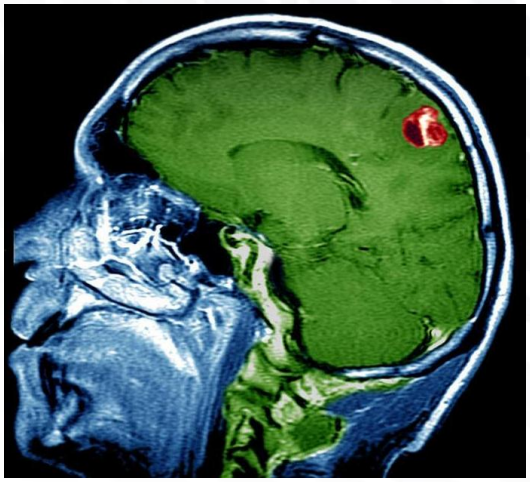
ISO 9001:2008 certified

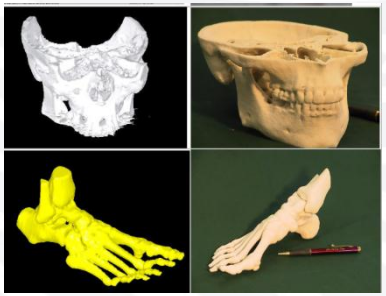
Laser-scan

CT-scan

MRI-scan



3D-printer



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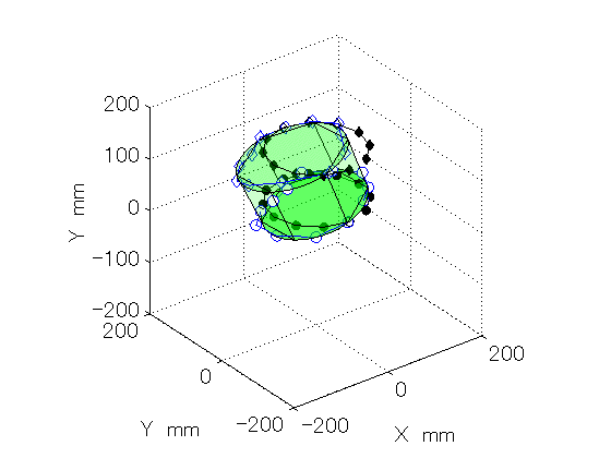
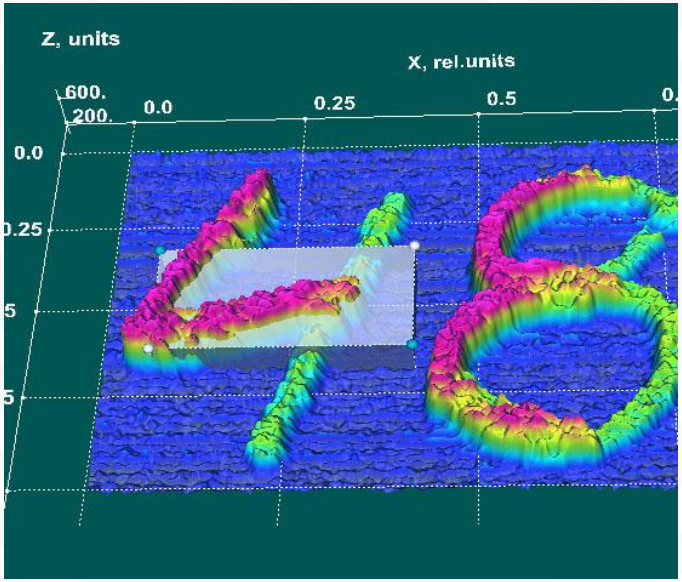
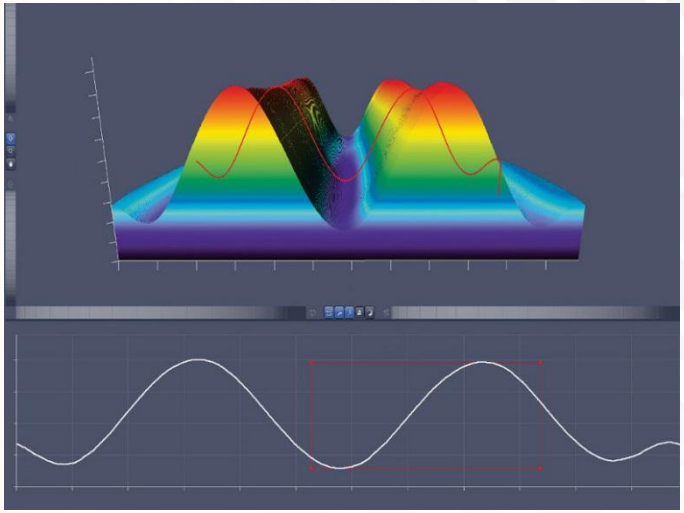
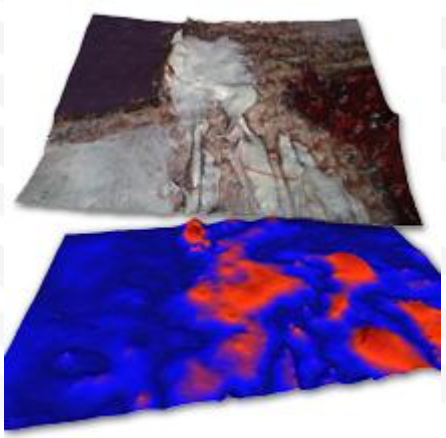
3D valgusmikroskoopial mõõtmine









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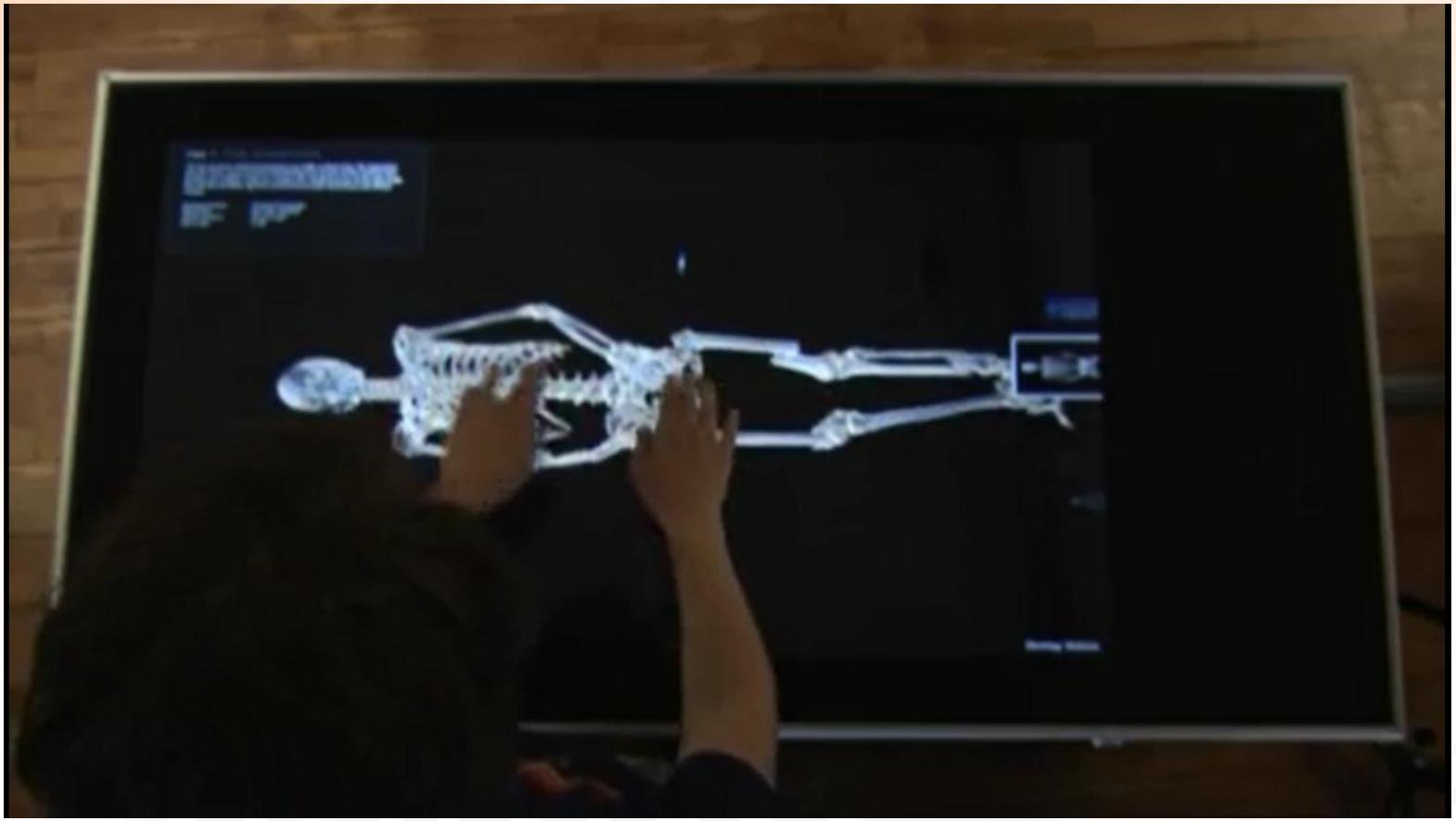

Videoklippi saab vaadata siin: https://vimeo.com/78713138

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ISO 9001:2008 certified

Teemad

Optimaalsus ja tõendi tugevus

- Optimaalne hulk uurimussuundi – „Fit for purpose“
- On-line info analüüs ja CSI kiirlahendused (Rapid DNA, Mobiil)
- Standardid ja kvaliteedi ühtlustamine (ISO17020➡ISO17025)
- Menetleja keskne arendus ja innovatsioon

Kvaliteedi süsteem

Kommunikatsioon

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Teemad

European Forensic Science Area 2020

- **IFSA = 6 kontinenti ~ 5000 eriteadmistega eksperti**
- **5 aastat kvaliteedi harmoniseerimist**
- **+5 aastat süsteemne harmoniseerimine**

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ISO 17020 accredited

Kohtuekspertiisi Globaalne Kokkulepe

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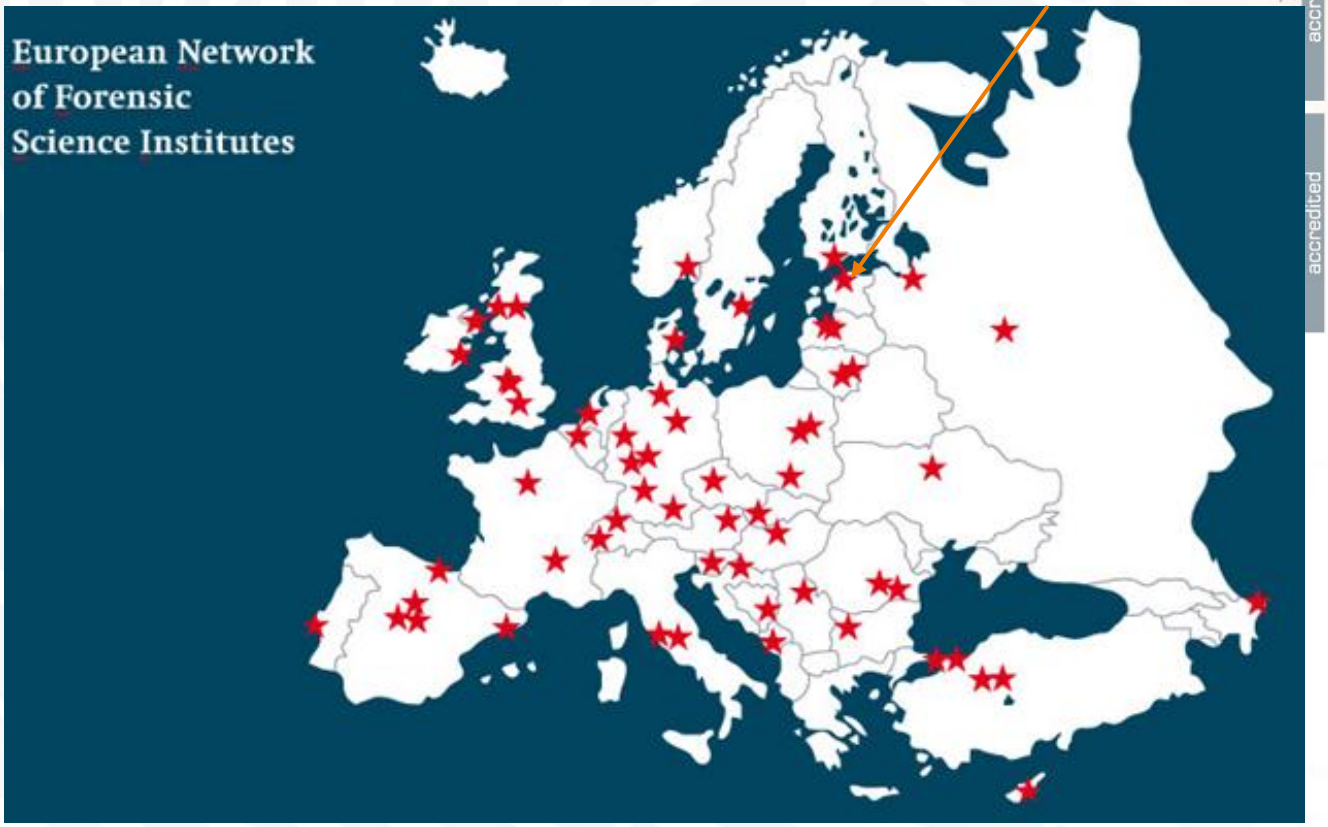
Euroopa Kohtuekspertiisiasutuste Liit (võrgustik)
(**kriminalistika** valdkond)
European Network Forensic Science Institutes (**ENFSI**)

EKEI



Asutatud1992

65 kohtuekspertiisilaborit
35 Euroopa riigist

EKEI on ENFSI liige alates **1998.** aastast
(http://www.enfsi.eu/)

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Euroopa võrgustiku ekspertide töörühmad (ENFSI WG)

1. DNA-ekspertiis
2. Dokumendiekspertiis
3. Hääle- ja helieksperttiis
4. Infotehnoloogiaekspertiis
5. Jäljeekspertiis
6. Kiu- ja karvade ekspertiis
7. Kujutiseekspertiis
8. Käekirjaekspertiis
9. Liikluseekspertiis
10. Lõhkeaineekspertiis
11. Narkootilise ja psühhotroopse aine ekspertiis
12. Sõrmejäljeekspertiis
13. Sündmuskohategevus
14. Tulekahju- ja plahvatuseekspertiis
15. Tulirelvaekspertiis
16. Värvi- ja klaasiekspertiis
17. Mitte inimpäritolu DNA-ekspertiis (animal, plant and soil traces) (2012. a-st)

Kuni 80 eriala spetsialisti
kuni 35 Euroopa riigist
1-2 x aastas
know-how jagamine

Kokku ~1000 eksperti

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Monopoly Status of ENFSI

Euroopa komisjon rahastab kohtuekspertiisi programmi alates 2008.

MP2009: **Sustainable Quality** within European Forensic Science

MP2010: **Strengthening the Evaluation of Forensic Results** across Europe

MP2011: **Improving Forensic Methodologies** across Europe

MP2012: Towards European Forensic **Standardization through Best Practice Manuals**

MP2013: Towards **European Forensic Science Area 2020**

COUNCIL OF
THE EUROPEAN UNION

EN

Council conclusions on the vision for European Forensic Science 2020 including the creation of a European Forensic Science Area and the development of forensic science infrastructure in Europe

G

1. Accreditation of forensic science institutes and laboratories
2. Respect for minimum competence criteria for forensic science personnel;
3. Establishment of common best practice manuals and their application in daily work of forensic laboratories and institutes;
4. Conduct of proficiency tests/collaborative exercises in forensic science activities at international level;
5. Application of minimum quality standards for scene-of-crime investigations and evidence management from crime scene to court room;
6. Recognition of equivalence of law enforcement forensic activities with a view to avoiding duplication of effort through cancellation of evidence owing to technical and qualitative differences, and achieving significant reductions in the time taken to process crimes with a cross-border component;
7. Identification of optimal and shared ways to create, update and use forensic databases
8. Use of advances in forensic science in the fight against terrorism, organized crime and other criminal activities;
9. Forensic awareness, in particular through appropriate education and training of the law enforcement and justice community;
10. Research and development projects to promote further development of the forensic science infrastructure.

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Trendid kohtuekspertiisis 2021 - …

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ZONE 2: 2015-2020
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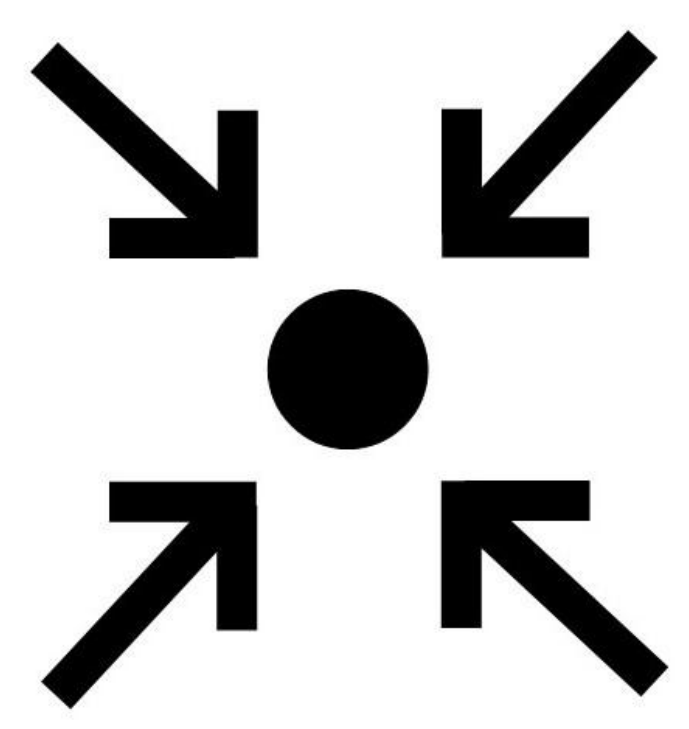
ZONE 5: 2035-2050



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