



Contum

**Quicker, smoother and more accurate -
AI based identification for qualified electronic
signatures**

A solid blue square is positioned to the left of the "Agenda" heading.

Agenda

- Who we are
- What we are experienced in - our specialities
- Electronic signature
- Remote identification
- What AI is
- What are the added value and benefits of AI in terms of the (remote) identification process

- Coming of age in expertise - more than 18 years of experience 😊
- Consultation, integration, development and PM teams
- Member of qualified supplier groups at some customers - expert project team
- End-to-end project delivery from preparation via implementation till operation

- Electronic signature solutions - real digital transformation of documents

Our solution already works for 2 of Hungary's 3 largest banks:



- 230+ branches, 1650 agents



UniCredit Bank - 50+ branches, 850 agents

and also at our other customers in the neighbouring countries...

- Remote identification and onboarding
- Authentic long-term archiving
- Content management
- Process control

Our main customers



Solution references

Banking and Finance



Insurance



Telecommunication



Automotive



Utilities



Government



Retail



Other Industries



Signing scenarios and their requirements



Branch or shop

- POS device
 - Signature monitors or tablets
 - Support for terminal services
- Advertising on POS device
 - Slideshows and videos
- External sales to user their own device
 - Smartphone or tablet



Field (sales / service)

- Integration of
 - mobile Tablets
 - Smartphones
- Offline support
- Document editing
 - Forms fields
 - Add attachments (ID, DL, passport, or any photo)



Remote (unregistered)

- HTML5 without installation
 - Any device (Smartphone, PC)
 - Access simply through link
- Remote advisory and onboarding
- Unassisted or assisted



Remote (internal Users)

- Single Sign On
- Sign with your real signature image
- Bulk signing across transactions
- Complex signature orchestration workflows

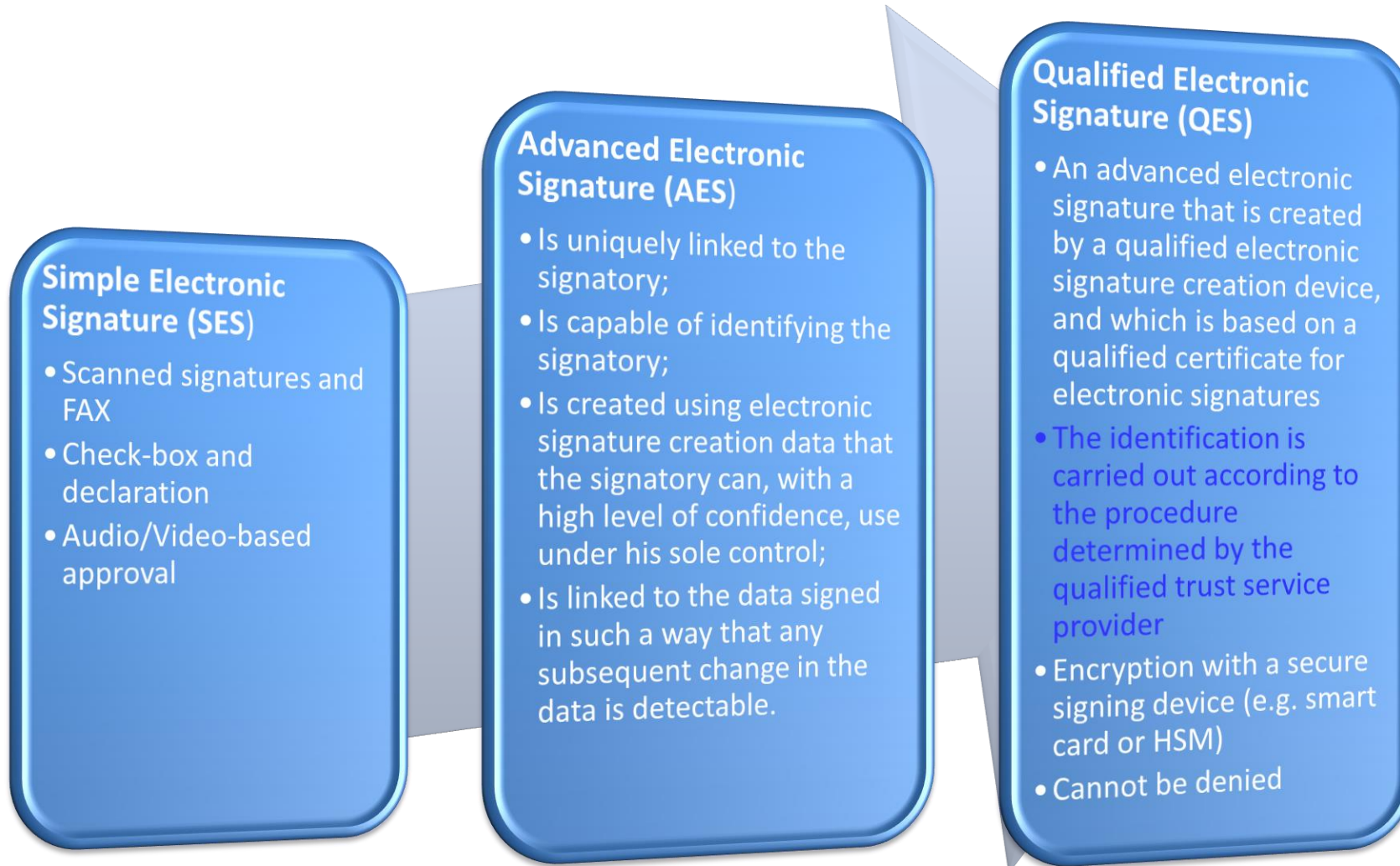
SIGNificant 4 Direct In-Person Signing

SIGNificant 4 Remote Signing

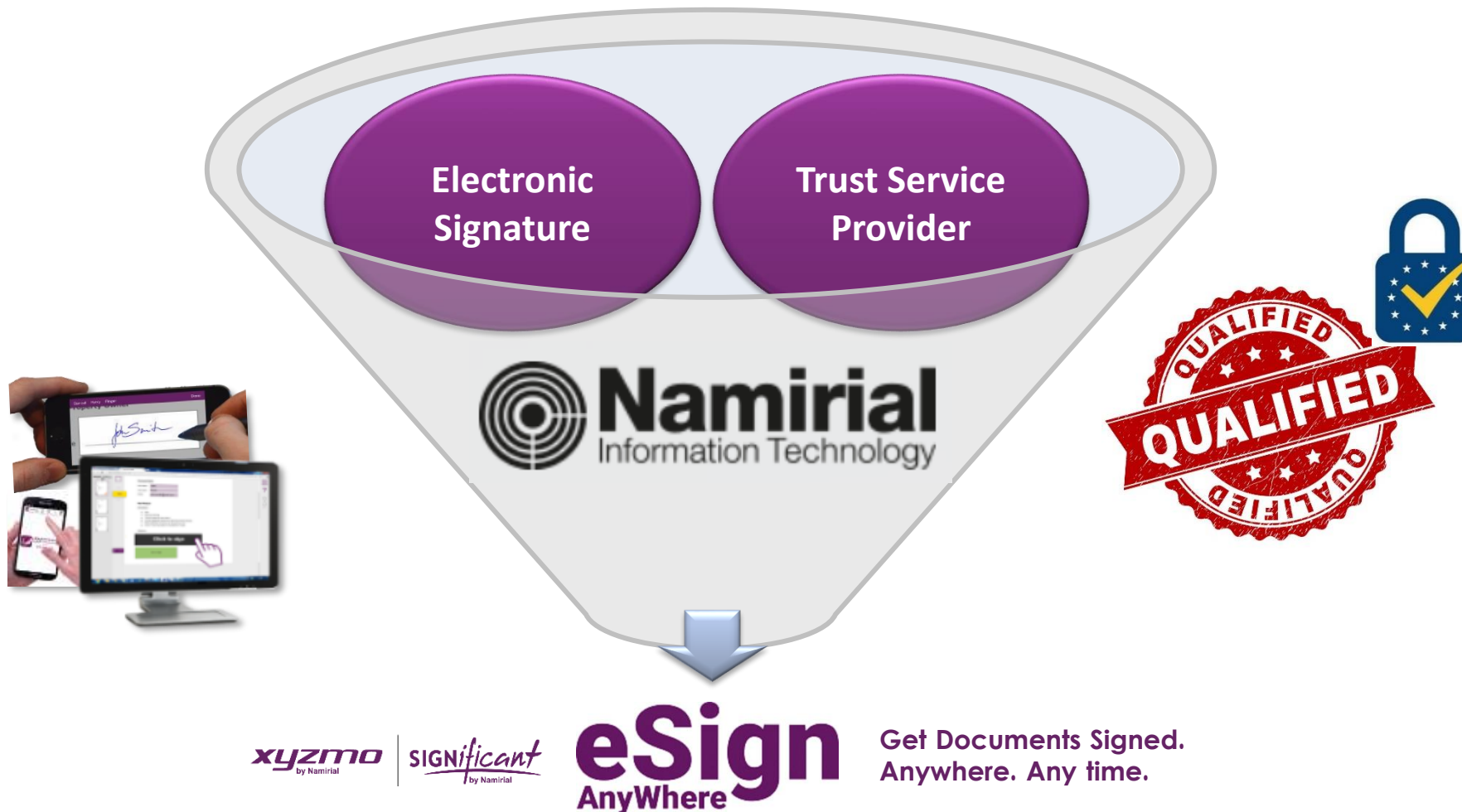
eSignAnyWhere Platform

Namirial Trust Services *

* or 3rd party



The eSAW provides both a signature solution and the seamless usability of qualified certificates

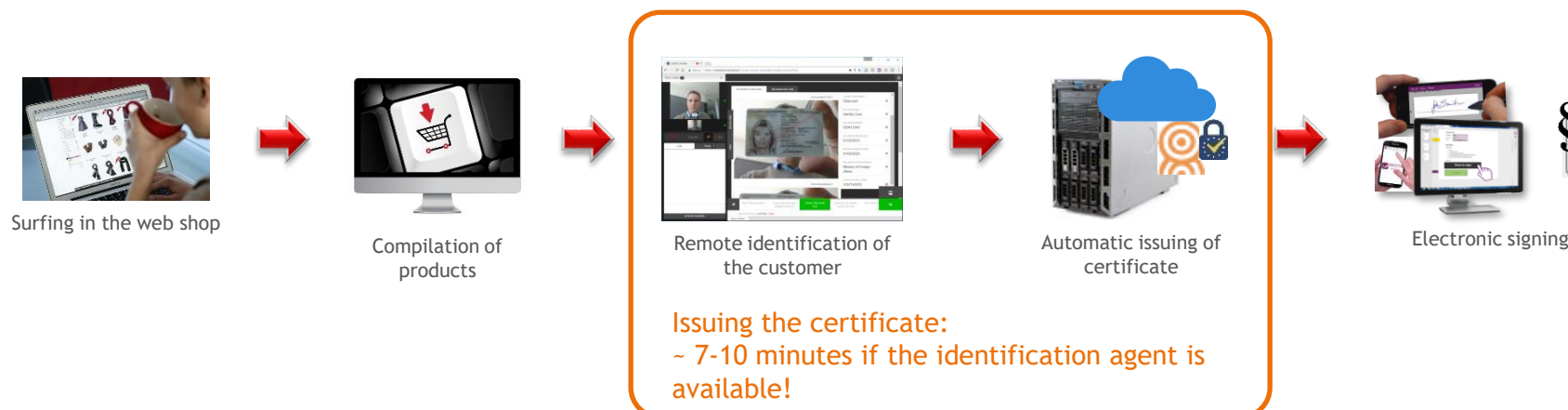


Traditional ways of issuing certificates

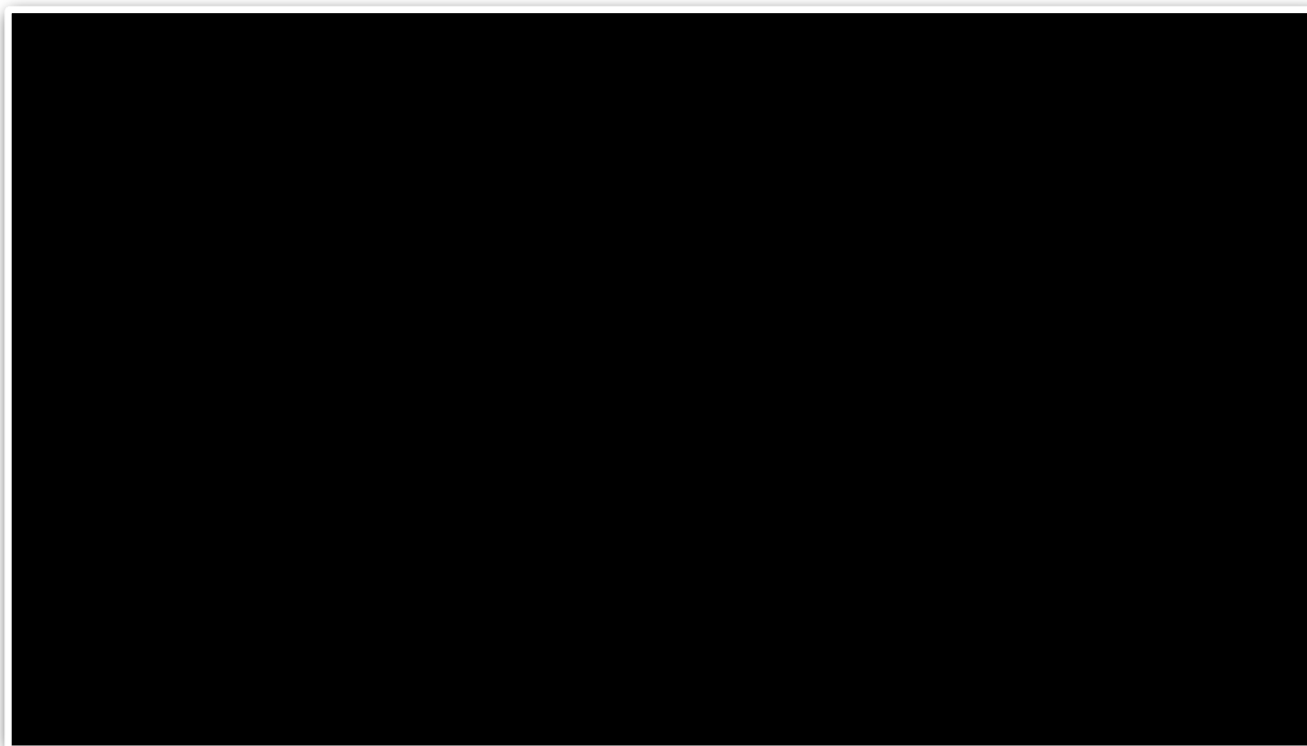
A business process with traditional certificate issuance flow



A business process with a remote identification of the customer and a remote certificate issue

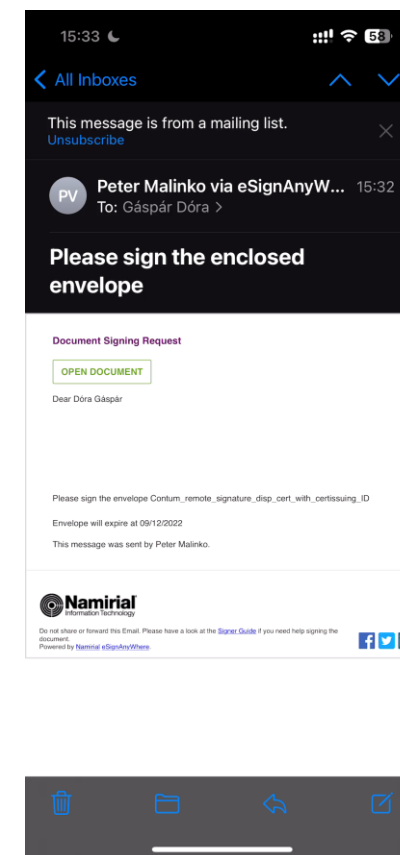


Assisted video identification



Just a short extraction of the identification process plus certificate issuance and document signing

Agentless auto-identification

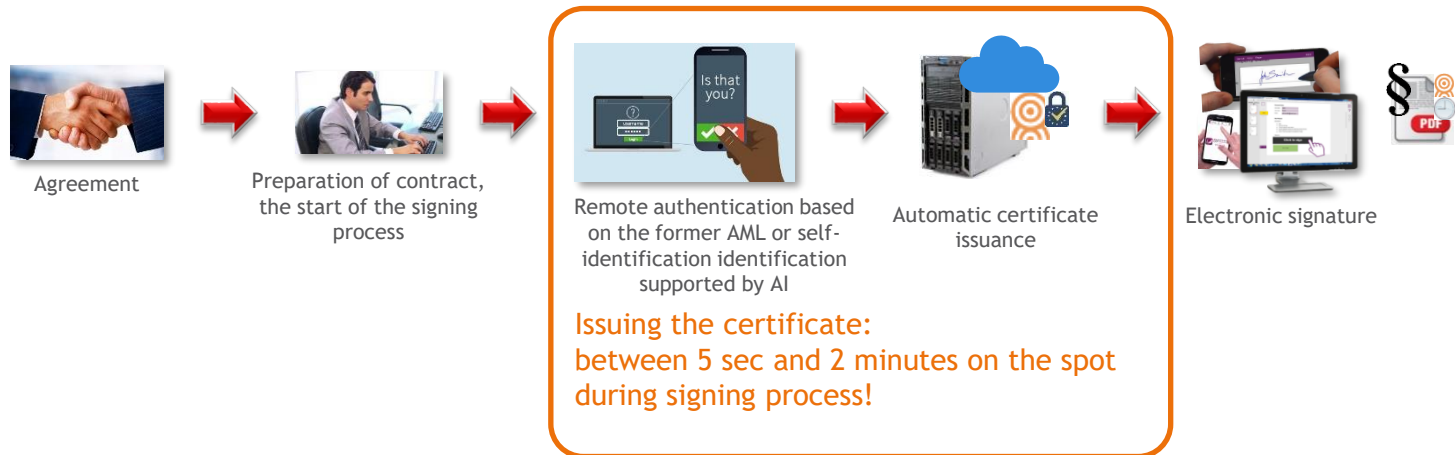


The whole process included identification, certificate issuance and document signing

Issuing of certificates based on self-identification supported by AI



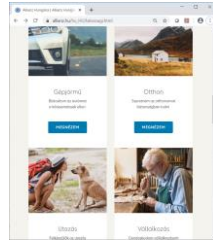
A business process with issuing of remote “disposable” certificate



Issuing of certificates based on self-identification supported by AI in detail



Customer interaction:



Back-end activities:

- Detect document
- Classification of document
- Extract data of the document
 - Checking authenticity of document
- Liveness detection
- Facematch
 - Fraud detection
- Id-photo reuse detection

Why do we need an AI?



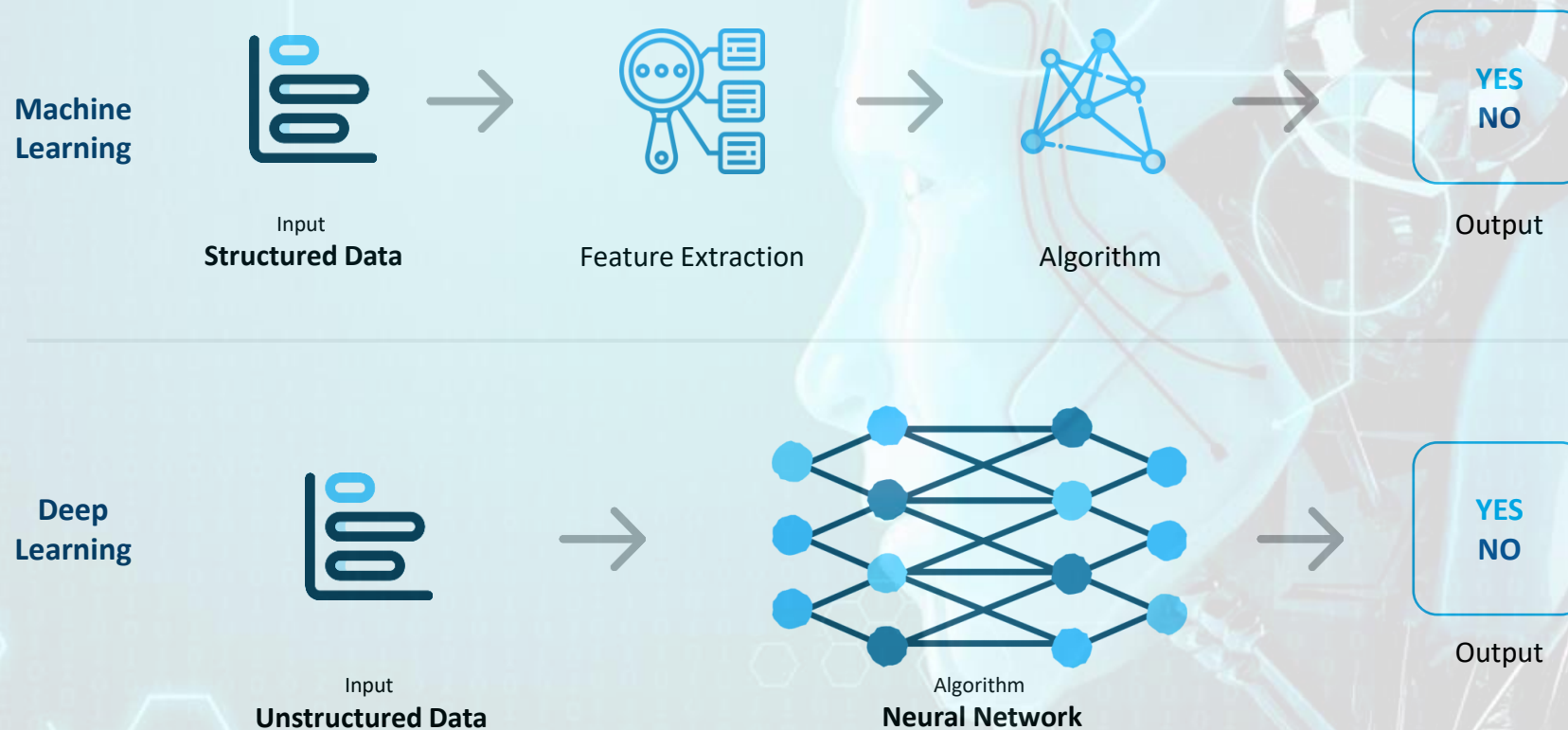
A quick test - can you explain why?



AI discovers rules and patterns by itself



How it works : machine learning VS deep learning







- 1 Classification
- 2 Data extraction
- 3 Authenticity check
- 4 Facematch
- 5 Fraud database
- 6 Video treatment



Is this a valid identification document model?



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Initials
MRZ characteristics



AI algorithm adaptation is very useful for this kinds of problems because each type of document has its own set of security elements



AVOIDED FRAUD

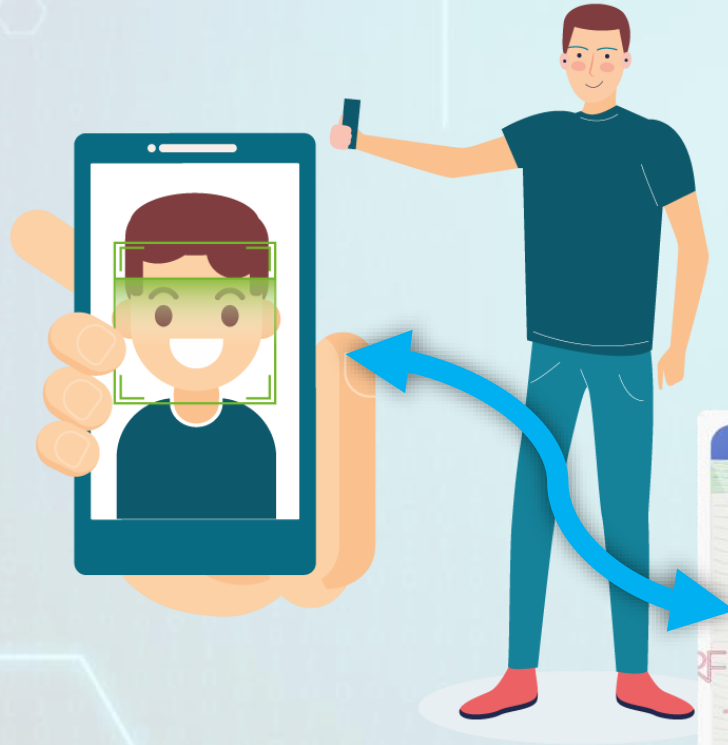
DOCUMENT FALSIFICATION

MULTIPLE

Initials
MRZ characteristics

ation is very
d of problematics
e of document
ity elements

Facematch with liveness detection



ALL PLATFORMS
(WEB RESPONSIVE)



EASY TO USE



HIGH LEVEL of
AUTOMATION

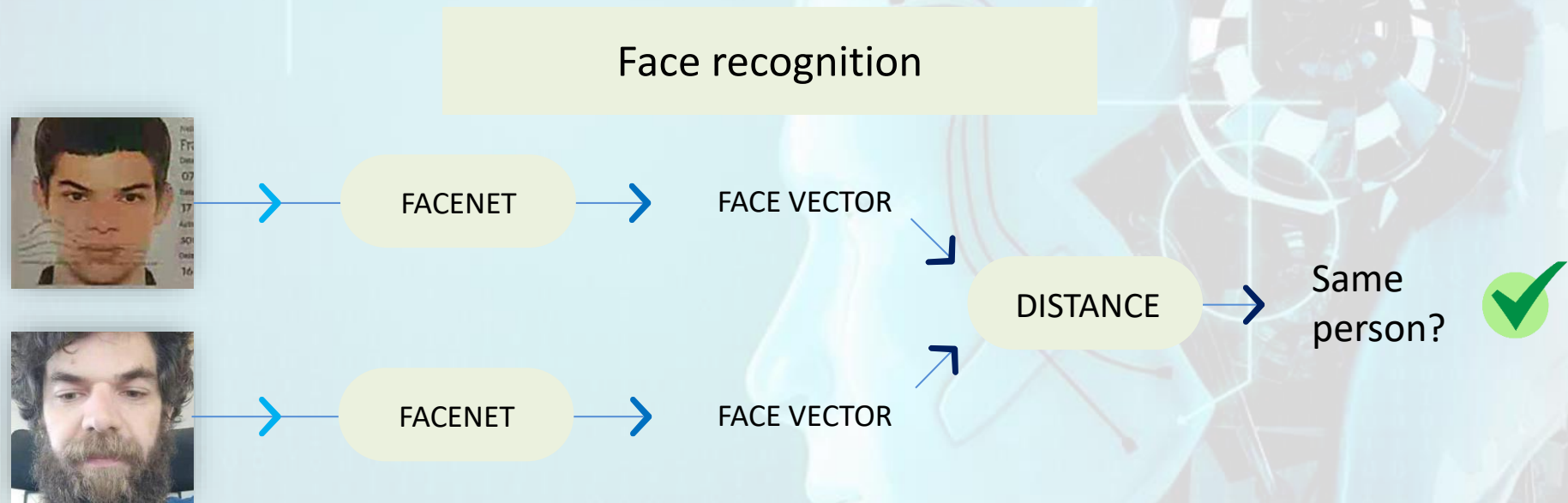


UI FOR MANUAL
FINAL DECISION



75%
Without human control

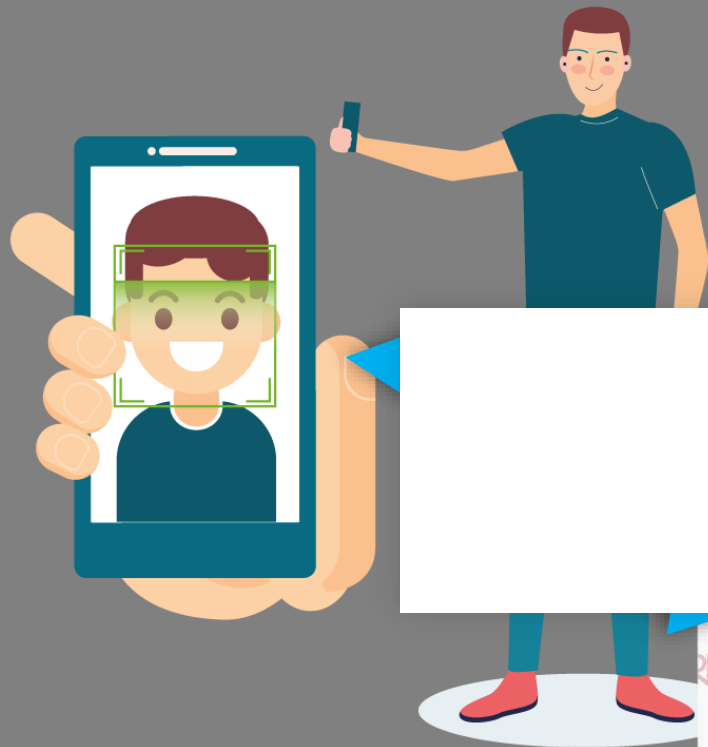
Facematch with liveness detection



Recent advances in facial recognition deep neural networks trained on 10s of millions images score better than humans !

human average accuracy is 97 % vs 99+% for state-of-the-art neural networks on standard benchmark
(Large Face in the Wild)

Facematch with liveness detection



ALL PLATFORMS
(WEB RESPONSIVE)



EASE TO USE



HIGH AUTOMATION
LEVEL



UI FOR HUMAN
FINAL DECISION

AVOIDED FRAUD

IDENTITY THEFT



Without human control

Fraud detection : id-photo reuse

Fraudsters reuse the same identity photo.

Using face recognition techniques we are able to detect if a picture has already been submitted, with a different identity / document ...



DECLARATIVE

FLOW FRAUD DETECTION

AVOIDED FRAUD
AUTOMATED ATTACKS

Base de fraude

 Élément trouvé dans la base de fraude

20/03/2019

Dossier client n° 19320

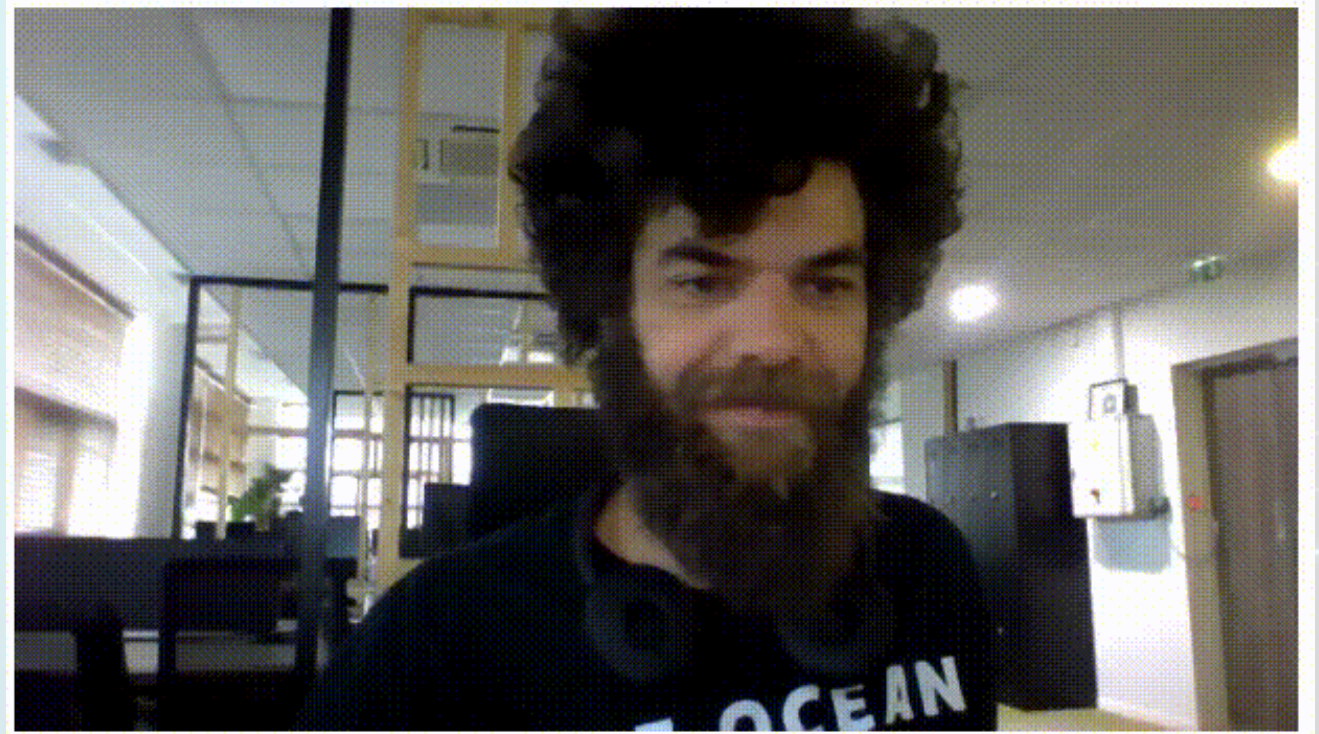
Lignes MRZ

20/03/2019

Dossier client n° 19323

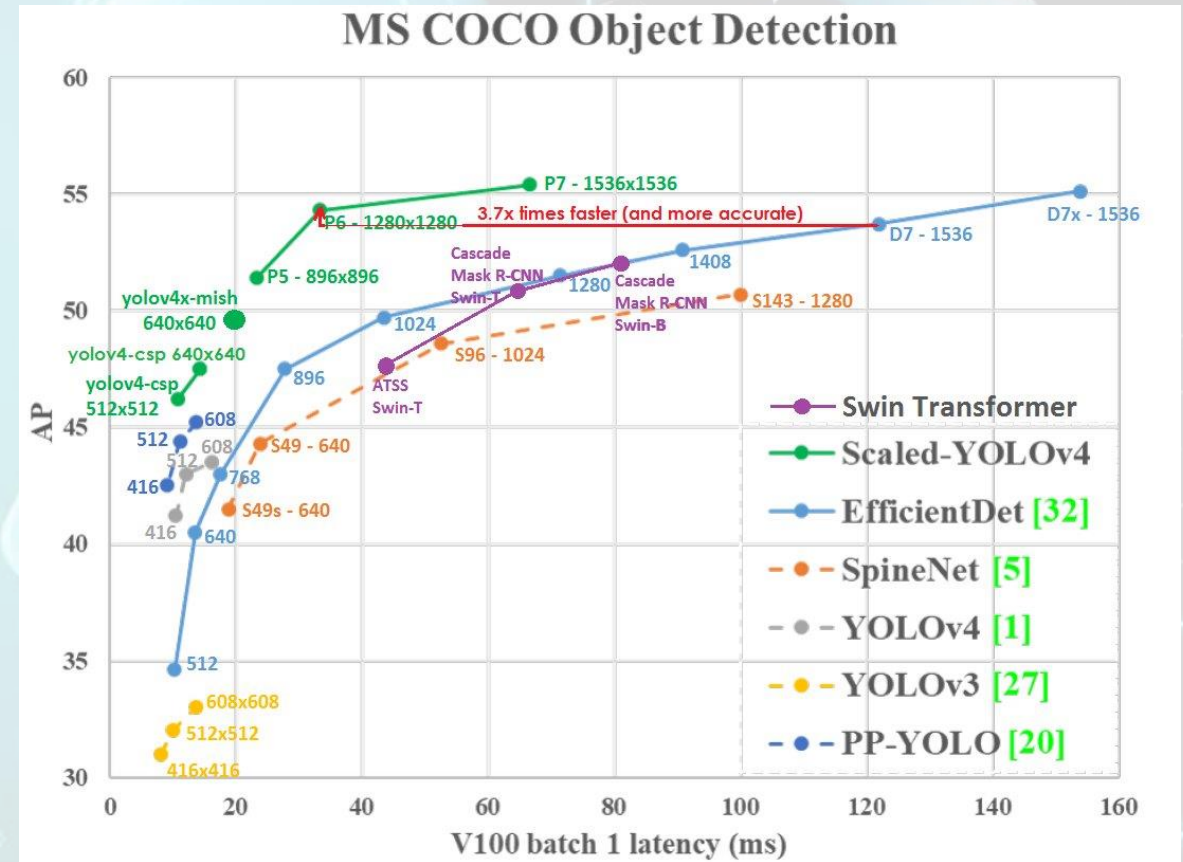
Numéro du document

- Based on SSD (single shot detector)
- Detect document bounding box
- Trained with ID documents for better accuracy



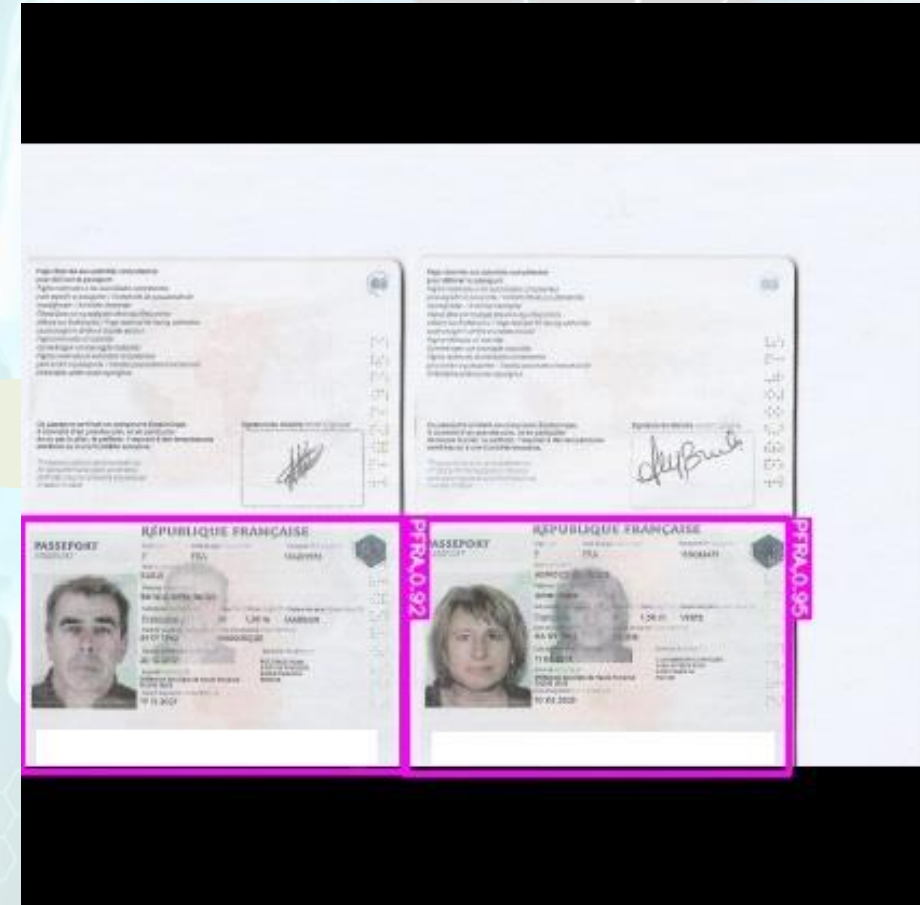
Frame and document detection

- Based on YOLO v.x Scaled
- Real time, faster, more accurate than previous approach
- Capable to detect multi objects in one frame

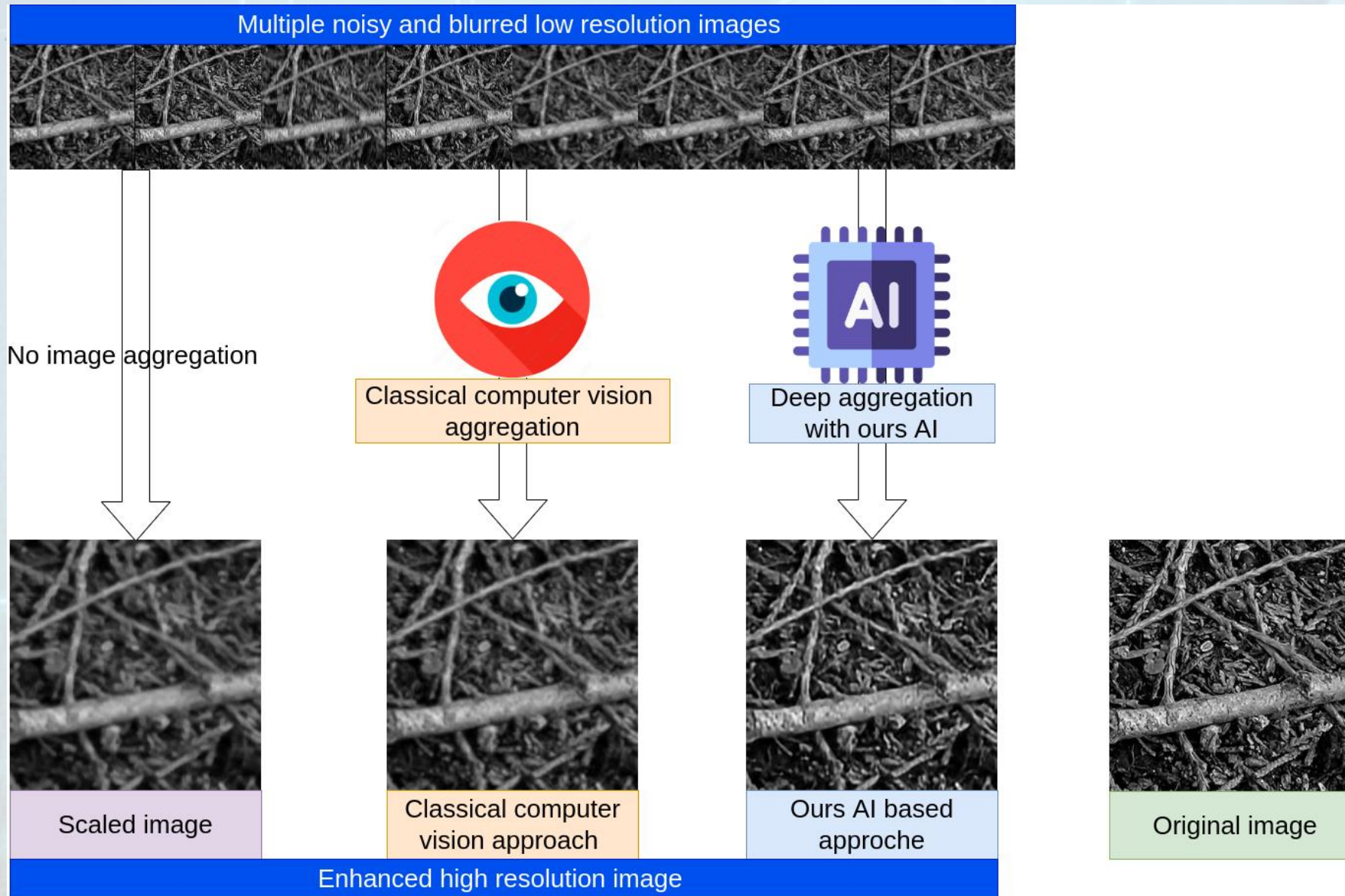


Frame and document detection

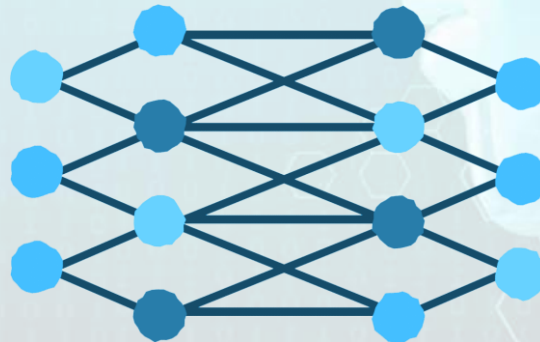
- Combined models for detection and classification in real time



Video enhancement and super resolution



Video manipulation detection (liveness detection and deepfake detection)



So why do we need AI?



The Contum logo is displayed in a bold, italicized, black sans-serif font. To the right of the text is a vertical bar composed of three stacked squares: the top square is dark blue, the middle square is a medium blue, and the bottom square is light blue. The background of the slide features a faint, light blue image of a person's face in profile, looking towards the right. Overlaid on this background are various semi-transparent digital and industrial graphics, including gears, a world map with location pins, and abstract data lines.

Contum

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