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DIGITAL TRANSFORMATION WITH **ENGINEERS NOVA SCOTIA** DIGITAL SIGNATURES

June 2023

Engineers NOVA SCOTIA

Agenda

- Why do engineering/geoscientists associations issue wet seals?
- Why does Engineers Nova Scotia issue digital signatures?
- 3 types of electronic signatures
- What does a signed PDF look like?
- What does a modified PDF look like?
- Demo
- Why Notarius?
- Pricing
- Help
- Next Steps
- Questions?

5 reasons that motivate clients to digitally sign documents

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MOTIVATIONS

ENVIRONMENT

SECURITY

PRODUCTIVITY

QUALITY

FINANCIAL

It can’t happen to me?

Engineers push 'digital seal' to stop bogus blueprints

APEGM joins investigation of counterfeit seals on home plans

CBC News · Posted: Feb 26, 2013 6:38 PM CT | Last Updated: February 26, 2013

The association representing professional engineers in Manitoba has joined the City of Winnipeg in trying to discover who used a counterfeit seal blueprints used to build three houses. CBC's Katie Nicholson reports. 2:22

http://www.cbc.ca/news/canada/manitoba/engineers-push-digital-seal-to-stop-bogus-blueprints-1.1359641

New article - Forged inspection documents shine light on Ontario's troubled building department practices

https://www.cbc.ca/news/canada/kitchener-waterloo/engineering-building-inspectors-ontario-1.5676977

More Examples & Illegal Practice

CANADIAN CONSULTING Engineer

«Professional Engineers Ontario had revoked Cook's licence in 2014 … He had surrendered his seal, but made a duplicate and had used it on plans… A building official who received the building documents checked the status of the engineering licence and realized the problem.»

Ontario contractor fined $5,000 for unauthorized use of professional engineer's seal

Dole Contracting Inc. of Woodbridge, Ontario, was convicted of breaching the Professional Engineers Act by the Ontario Court of Justice.

Toronto-area man convicted for illegal use of "professional engineer" title

Individual was fined $15,625 (including a 25% victim fine surcharge of $3,125) after his guilty plea to four counts of breaching the Professional Engineers Act.

Former engineer made duplicate of surrendered seal

Pickering man fined $10,000 for illegal use of P.Eng.

Working as a "construction superintendent" the individual used the title "P.Eng." in 40 emails between May, 2016 and June 2017.

Sources

- https://www.canadianconsultingengineer.com/companies-people/ontario-contractor-fined-5000-unauthorized-use-professional-engineers-seal/1003406122/
- https://www.canadianconsultingengineer.com/business-professional/former-engineer-made-duplicate-of-surrendered-seal/1003401653/#
- https://www.canadianconsultingengineer.com/business-professional/toronto-area-man-convicted-illegal-use-professional-engineer-title/1003407082/
- https://www.canadianconsultingengineer.com/companies-people/pickering-man-fined-10000-for-illegal-use-of-p-eng/1003409049/

Why do engineers use a seal to authenticate official documents/drawings?

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Sealing & Signing a Paper Document

Paper documents must meet 4 guiding principles to be considered official.

1) **Identity & Authorization:** Seal confirms identity of trusted issuer, unique identifier (member number), professional designation, personal identity.
2) **Authenticity:** Engineer's signature confirms the authenticity that it is associated with the identity of seal.
3) **Integrity:** By sealing and signing, the integrity of the document is confirmed and dated to a particular moment in time.
4) **Longevity:** Paper selected for ease of use and long term archiving. Replaced blue prints.

Why are engineering/geoscientist associations issuing digital signatures in Canada?

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12 of 12 Engineering/Geoscientist Associations Manage Digital Signatures

- Control over use of seal
- Best Practices in Cyber Security
- Government Recognition
- Address authentication evolution of engineering practice (BIM)
- Provide a base level of trust
- Add value to the profession
- Align with increased authentication requirements
- Provides technological leadership and removes guesswork

How does Engineers NS issue digital signatures?

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Engineers Nova Scotia Guidelines

Most Canadian engineering/geoscientist bodies have guidelines that require issuance of wet seal and digital seal/signature by the association AND require both image and digital signature certificate.

For example, Engineers Nova Scotia has chosen to control use of seal for digital authentication, in the same manner as the wet stamp for paper authentication.

Guideline for Use of the Professional Stamp

Engineers NOVA SCOTIA

Other Atlantic Associations That Issue Digital Signatures

Engineers NOVA SCOTIA

pegnl

NBSCETT

EngineersPEI

Architects' Association of New Brunswick

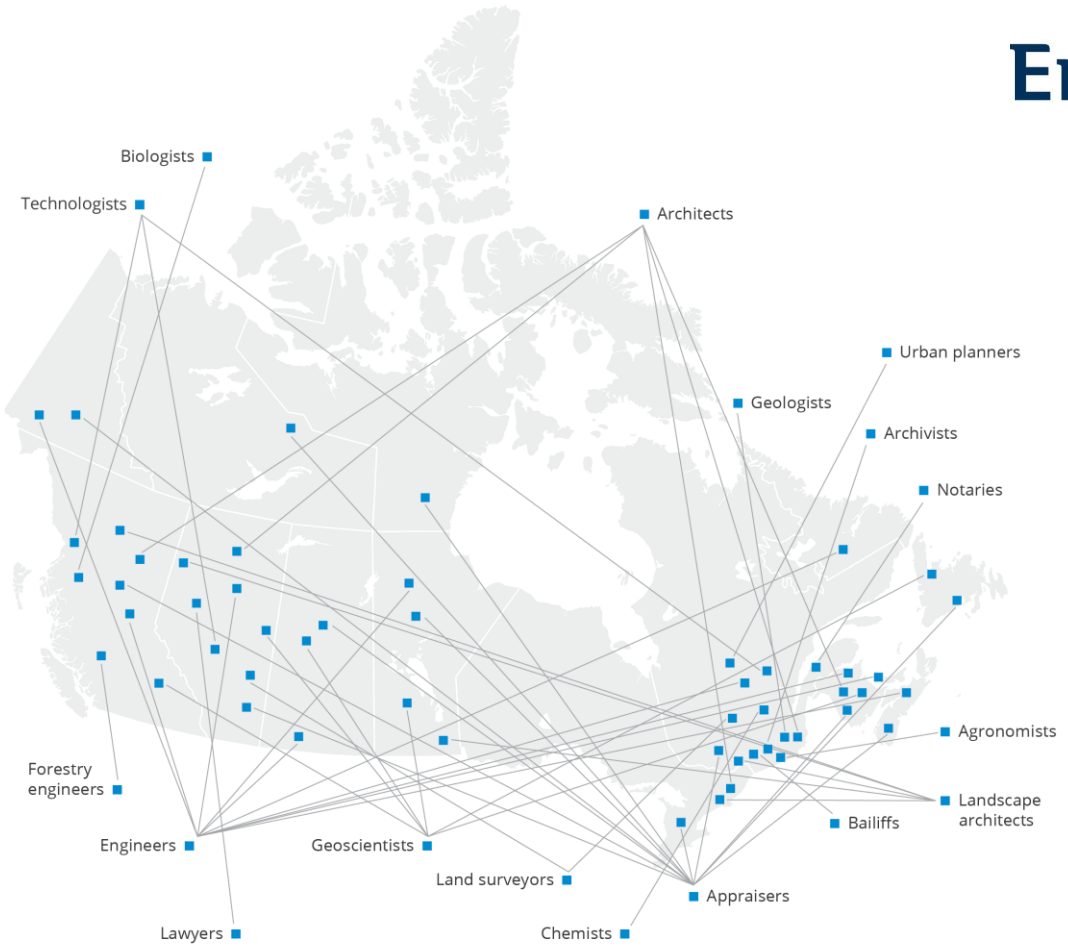
Association des architectes du Nouveau-Brunswick

ENGINEERS GEOSCIENTISTS New Brunswick

Appraisal Institute of Canada

Institut canadien des évaluateurs

54 Regulators Across 16 Professions in Canada



Engineers NOVA SCOTIA

The Alberta Association of Architects
Architects and Licensed Interior Designers

ORDRE DES ARCHITECTES DU QUÉBEC

ASSOCIATION OF BC FOREST PROFESSIONALS

EngineersPEI

Ordre des géologues du Québec

Ordre des ARPENTEURS-GÉOMÈTRES du Québec

ORDRE DES ÉVALUATEURS AGRÉÉS DU QUÉBEC

pegnl

Professional Engineers Ontario

Chambre des notaires

ORDRE DES CHIMISTES DU QUÉBEC

APEGA The Association of Professional Engineers and Geoscientists of Alberta

APEGS Saskatchewan's Professional Engineers and Geoscientists

Ordre des ingénieurs du Québec

ASET

ASSOCIATION DES ARCHITECTES PAYSAGISTES DU QUÉBEC

AIBC ARCHITECTURAL INSTITUTE OF BRITISH COLUMBIA

ENGINEERS & GEOSCIENTISTS BRITISH COLUMBIA

ENGINEERS GEOSCIENTISTS New Brunswick

LAW SOCIETY of ALBERTA

ENGINEERS GEOSCIENTISTS MANITOBA

ASSOCIATION DES ARCHIVISTES DU QUÉBEC

Alberta Land Surveyors' Association

Appraisal Institute of Canada
Institut canadien des évaluateurs

Ordre des Urbanistes du Québec

ORDRE DES TECHNOLOGUES PROFESSIONNELS DU QUÉBEC

Ordre des AGRONOMES du Québec

What is a digital signature?

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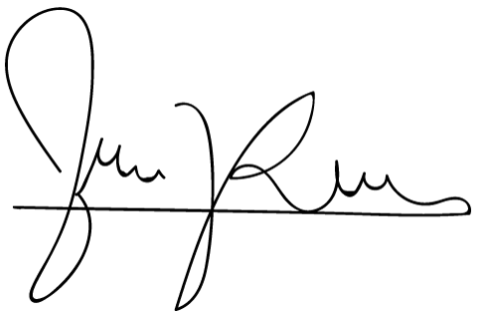
Terminology

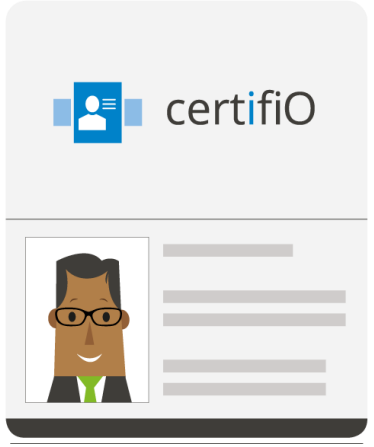
Signature	Electronic Signature	Digital Signature
Permanent marks bonded to static documents that are traceable, exclusive and personal to persons. They constitute evidence of implicit or explicit intent. *Permanent – Binding – Static* *Traceable – Exclusive – Intent*	*Signatures in the electronic medium. They cover a vast array of use cases and are of varying reliability.*	*Electronic signatures in which reliability characteristics have been reinforced with cryptography to augment document reliability.*
	Digital Signing Certificate	**Certificate Authority ("CA")**
	Cryptographically protected information in which the veracity of the certificate details is certified by a Certificate Authority	*Organization operating one (or several) Public Key Infrastructure(s) and managing the lifecycle of digital certificates*

3 TYPES OF SIGNATURES



ELECTRONIC SIGNATURE

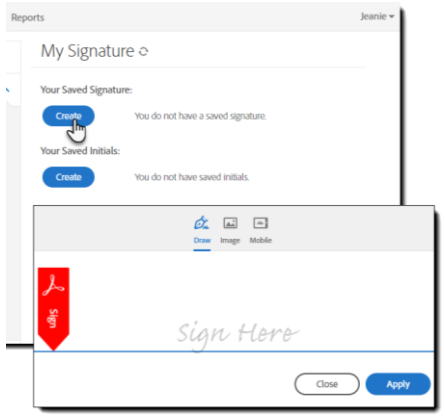
TRUSTED ELECTRONIC SIGNATURE



DIGITAL SIGNATURE

Varying Levels of Reliability

Electronic Signatures



Trusted Electronic Signatures

consignO Cloud

signaturely

nitro

HELLOSIGN
a Dropbox Company

Digital Signatures

certifiO

Higher Legal Value / Higher Legal Reliability

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What does a signed PDF look like?

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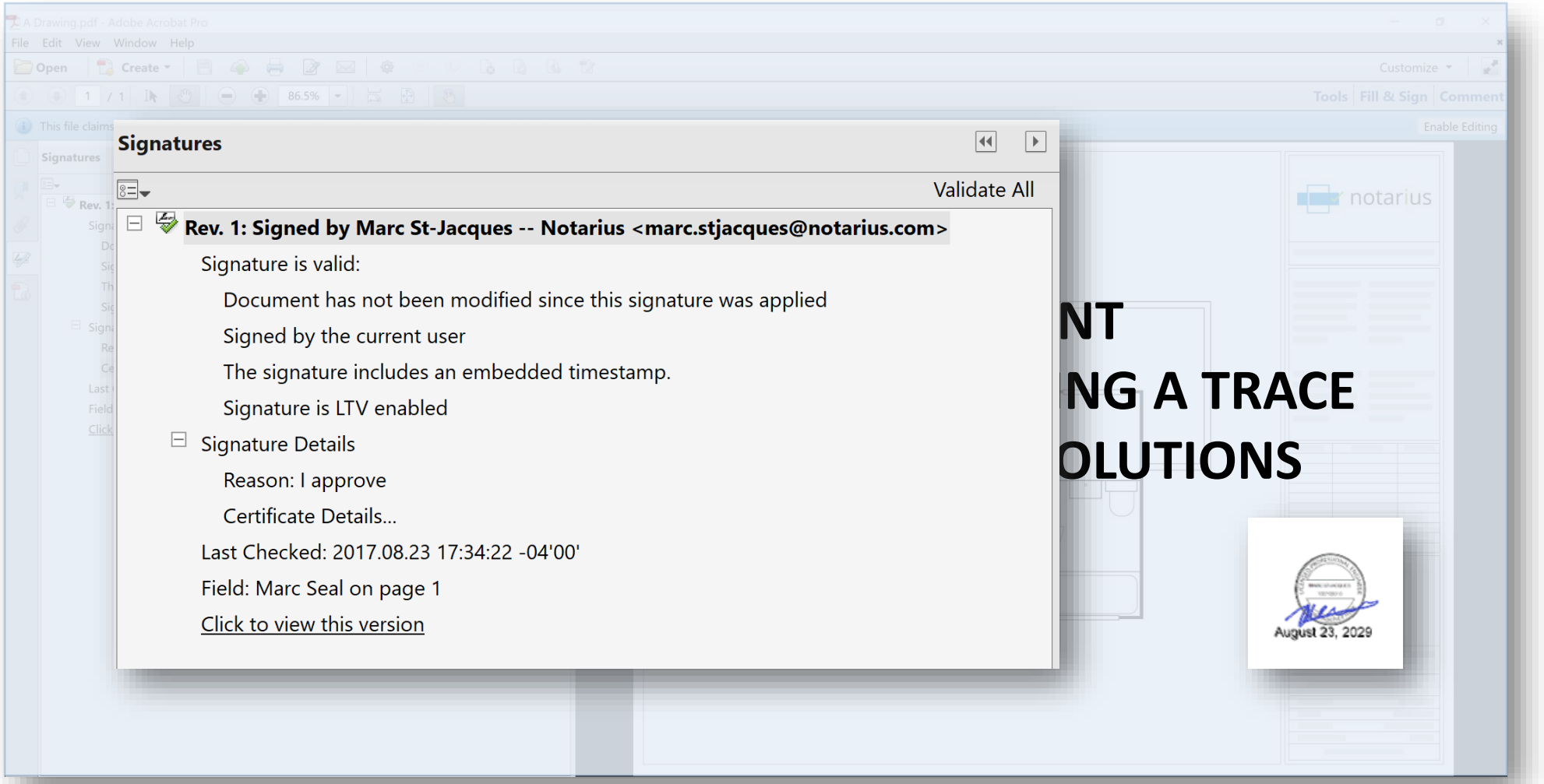
What Does a Digitally Sealed/Signed PDF Look Like?



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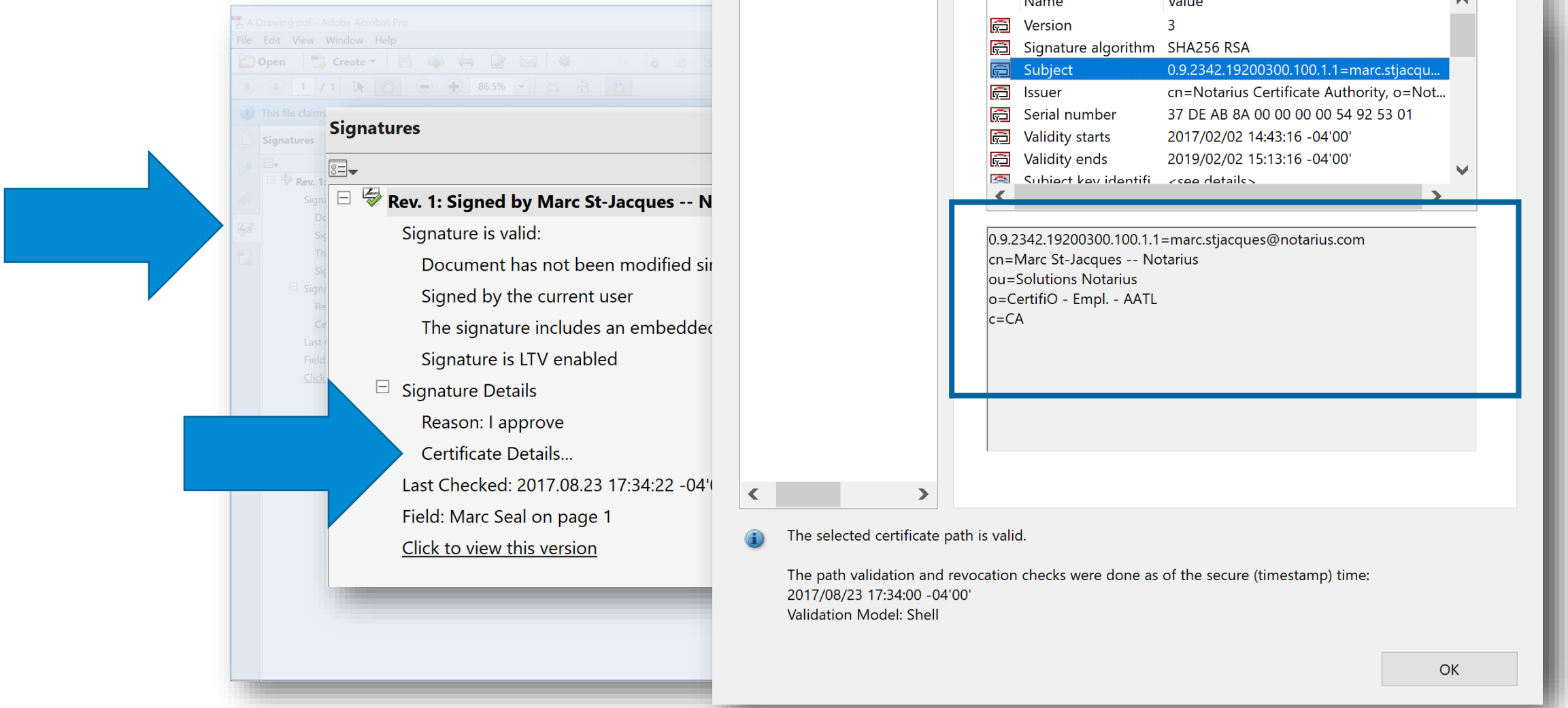

What is trust in a digital environment?

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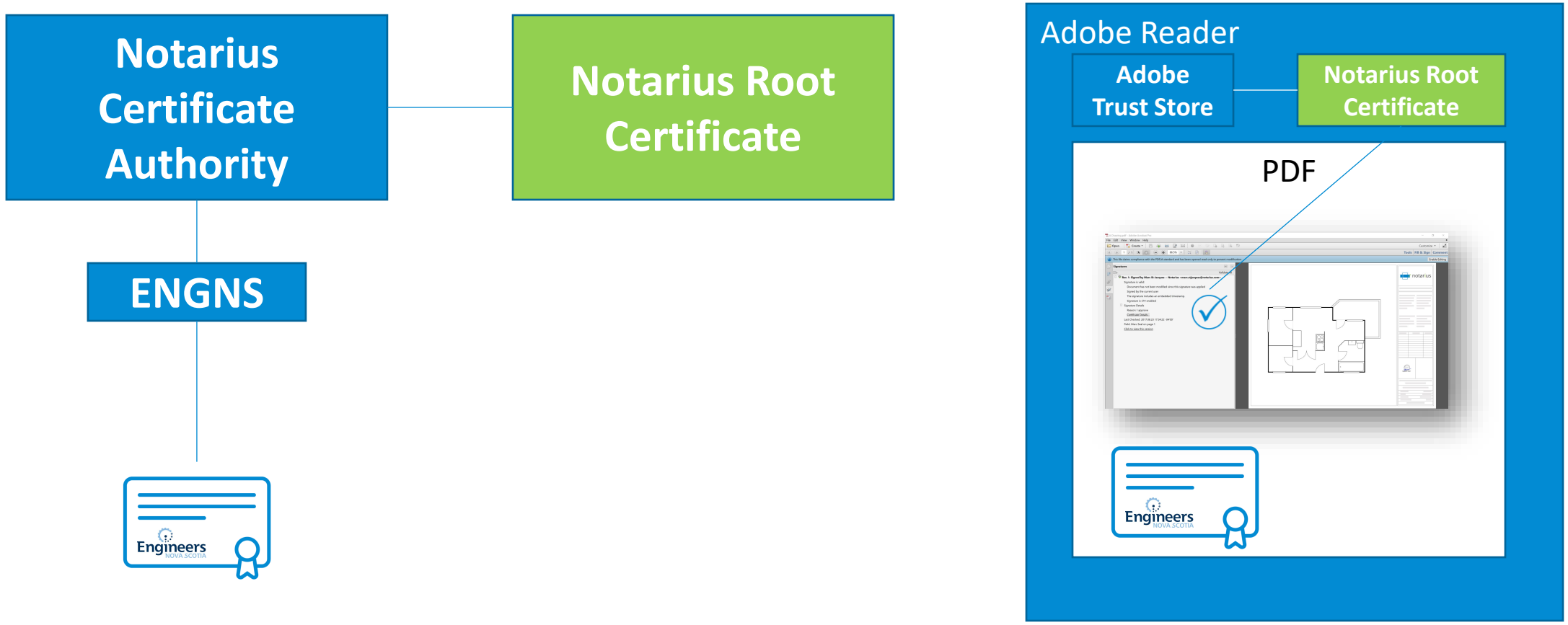
What is Trust?

Technology	Issuer	User Authenticity	Trust	Capable of Verification	Control Use of Seal
Electronic Signature	None	None	None	None	None
Adobe Acrobat Password or Self-issued Digital signature	None	None	None	None	None
Adobe Sign/DocuSign Online signing platform	Corporate Server	Server signature Audit based	Low if 1 factor Medium if 2 factor	Medium	None
Corporate Digital signature	Active Directory	Password Optional	Low if 1 factor Medium if 2 factor	Limited	None
3rd party Digital signature provider	3rd party	Password Optional	Low if 1 factor High if 2 factor	Medium-High	None
ENGNS Digital signature	ENGNS	Password Required	High	High	High

How Can Customer Trust CertifiO Digital Signatures?



What does a modified PDF look like, if digitally sealed?

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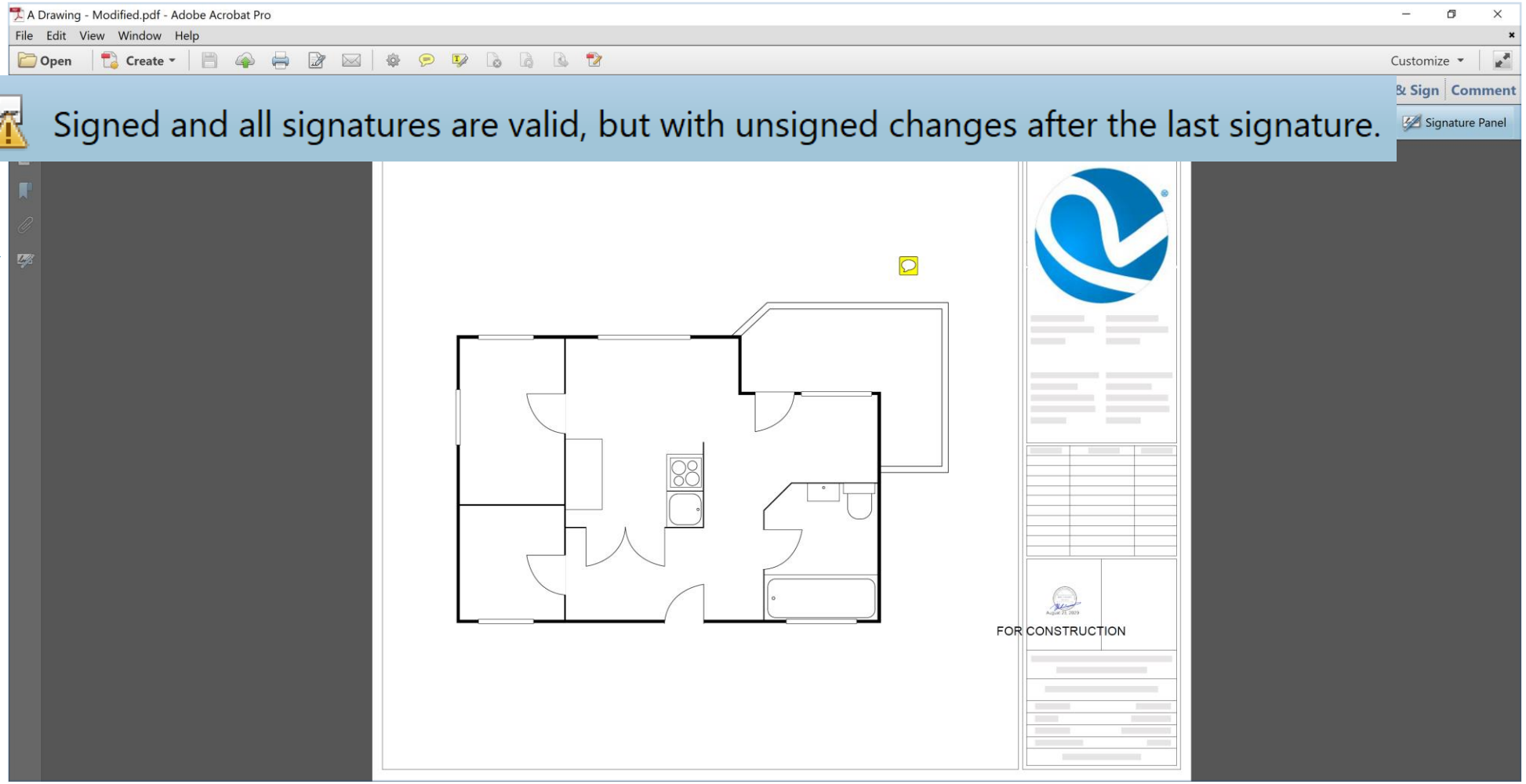
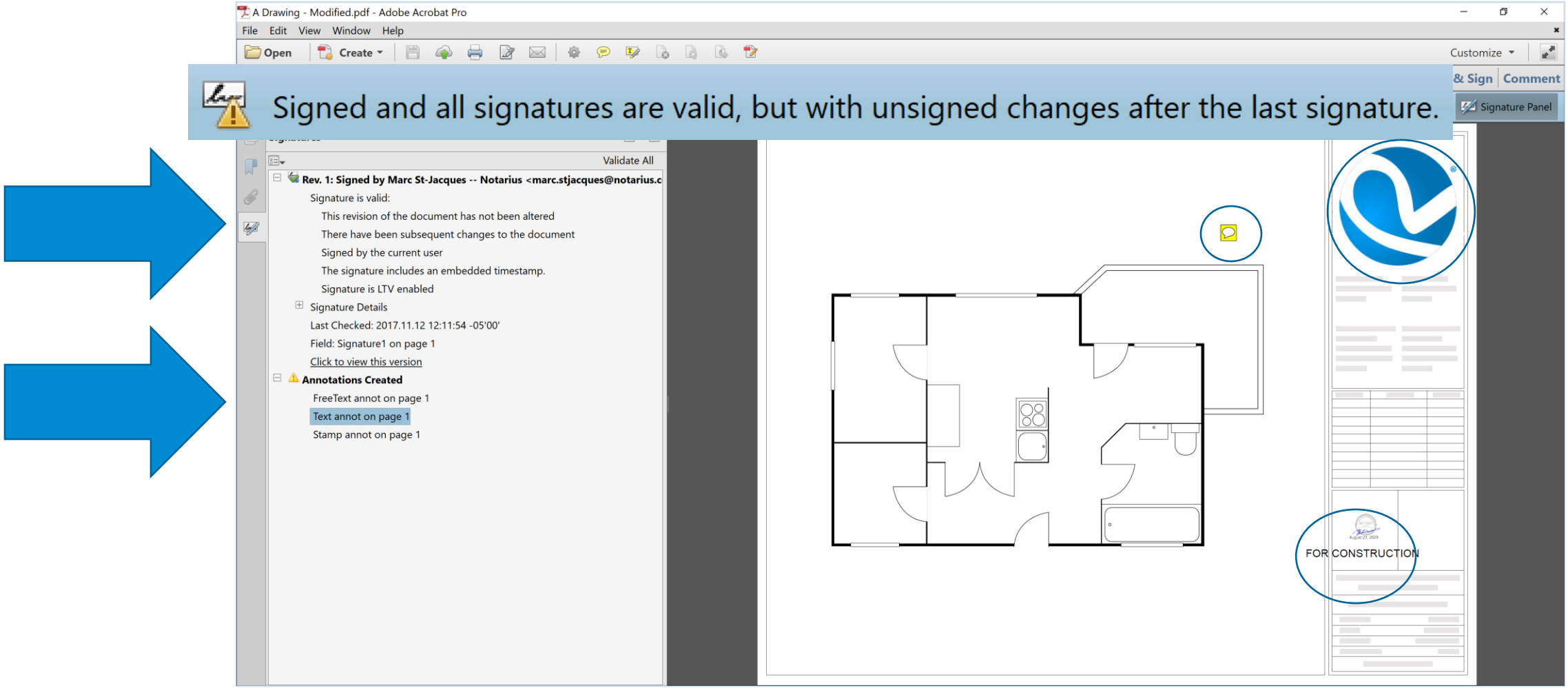
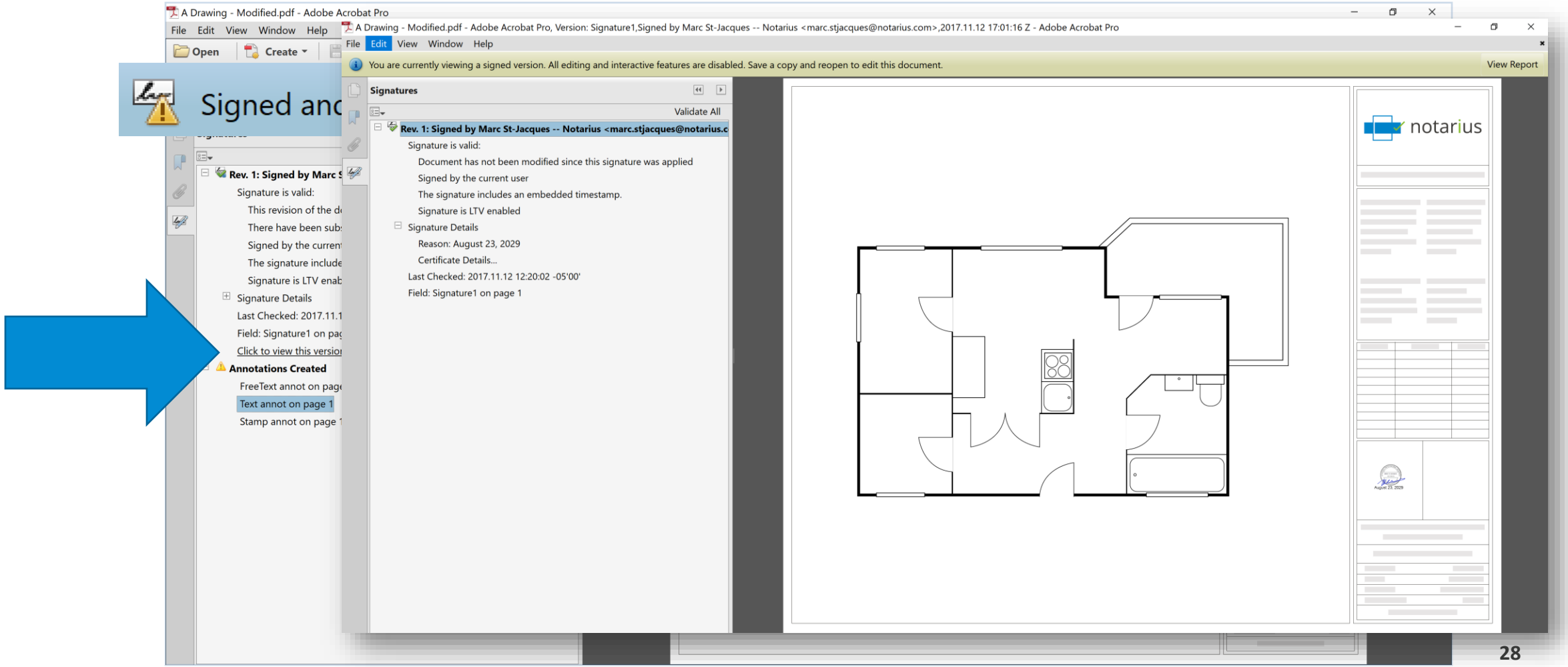
Digitally Signed PDF That Was Tampered



Digitally Signed PDF That Was Tampered



Digitally Signed PDF That Was Tampered



Demo

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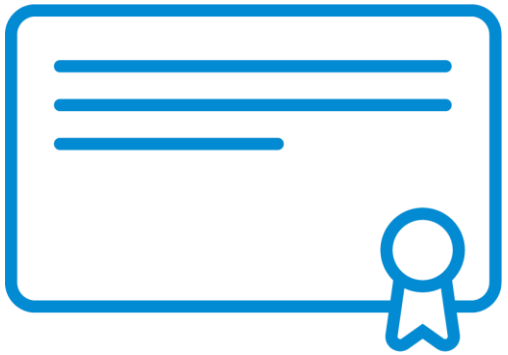
Our Solutions

certifiO

Identity



consignO

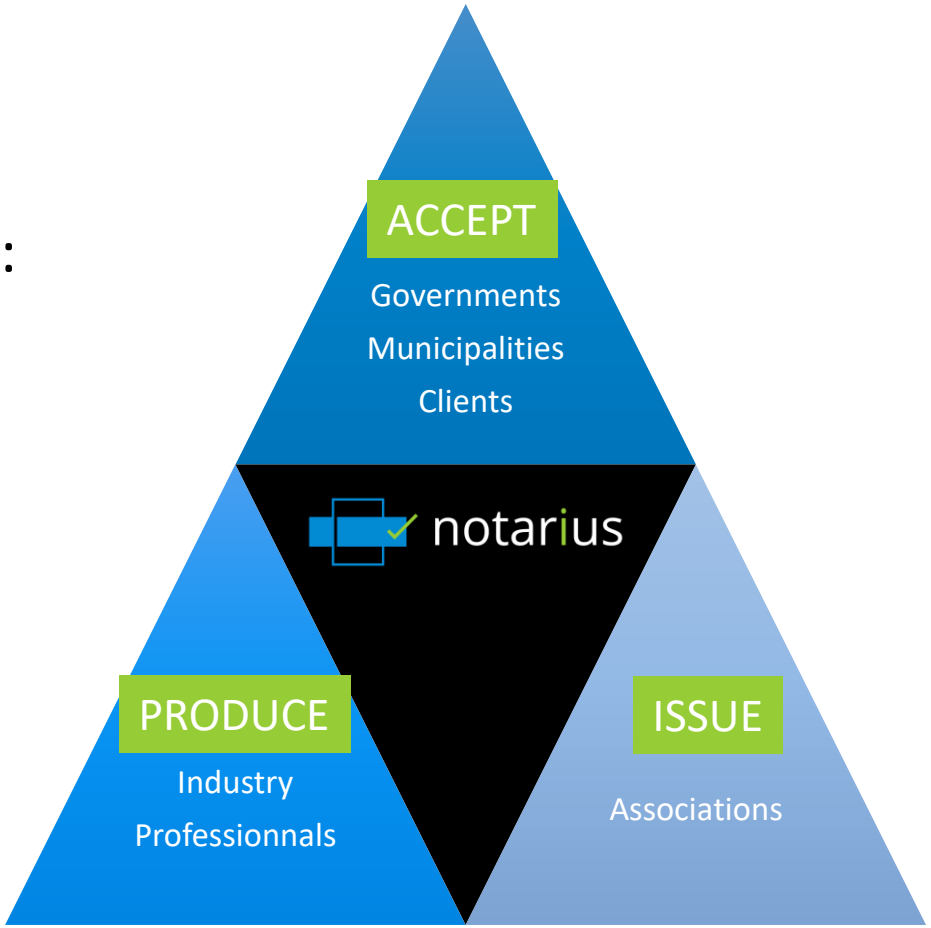
Productivity

Digital Ecosystem

Digital signatures are secure and recognized as a best practice method of authentication for electronic records

For this ecosystem to thrive, it requires 3 key ingredients:

- A governing body (ENGNS) that controls the **issuance** of digital signatures.
- A customer that **accepts** digitally authenticated documents.
- Industry Professionals **produce** electronic originals with association issued digital signatures to ensure trust, reliability authorization to seal documents destined to customers/government agencies.



What Impacts Have We Seen

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Impacts for Professionals

Use of the digital signature

- ✔+50% use digital signature once a week (10% every day)
- ✔+40% sign more than a dozen documents per month
- ✔97% customer satisfaction (Product and Services)
- ✔92% renewal rate (most non renewals are retirements)

Key Benefits listed by our customers

- ✔Security and integrity of document (94%)
- ✔Better environmental practice vs paper (92%)
- ✔Increased productivity (86%)
- ✔Improved visual quality of PDF (81%)
- ✔Cost reduction (76%)

Impacts for Businesses

- Enabler of digital Transformation;
  E-document reliability vs document management
- Digital document lifecycle management
- Business continuity
- More efficient use of human resources
- Time savings
- Money savings
- Reduced liability and cyber risk

Impacts for Relying Parties

- Automation of document management processes
- Moving away from paper management (printing, scanning, courier, handling, archiving etc.)
  Ex: NB Power, Transport NB, ALTO, Transport Alberta & Quebec, local governments etc.
- Security with document reliability
- Avoiding document forgery
- Benefits of instant validation
- PDF/A ISO 19005 archive standard for long term retention

Costs of the service

Engineers Nova Scotia's Digital Signature

The digital signature held by members of Engineers Nova Scotia confirms the civic identity and professional designation of its members at the time of signing. It serves as proof that the signer is in good standing and has the right to practice in Nova Scotia, in addition to ensuring the integrity of the signed documents and preventing their falsification.

Engineers NOVA SCOTIA

Pricing and Subscription

$99 One time sign-up fee	**$195** Yearly subscription	Subscribe

Practicing in More Than One Province?

Get a digital signature for an additional jurisdiction at a discounted price once you hold an approved and activated Professional Signature.*

*Signatures must bear the same name. The discount applies to the lower-priced signature.

$0 Sign-up fee	**$99** Yearly subscription	Subscribe

Volume discounts available for groups of 50 or more subscribers

Can I test these different types of digital signatures?

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Evaluate the certifiO Suite

- **Create a test digital signature**
  - https://notarius.com/en/evaluate-certifio-suite/
  - Digital identity is linked to a person
  - Download certifiO Suite: CertifiO and ConsignO
  - Evaluate free: 60 days

Digital Signature Suscription Process

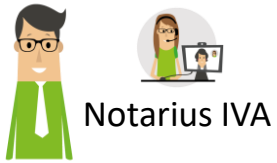
Step 1

ENGNS member fills out subscription form notarius.com/engineers-nova-scotia

ENGNS Member

Step 2

ENGNS member plans Face to Face ID verification



ENGNS Member

Step 3

ENGNS validate ENGNS member credentials against the membership database

Engineers NOVA SCOTIA

ENGNS Affiliation Verification Agent (AVA)

Step 4

After ENGNS's approval, ENGNS member must activate CertifiO digital signature

certifiO

ENGNS Member

Need Help?

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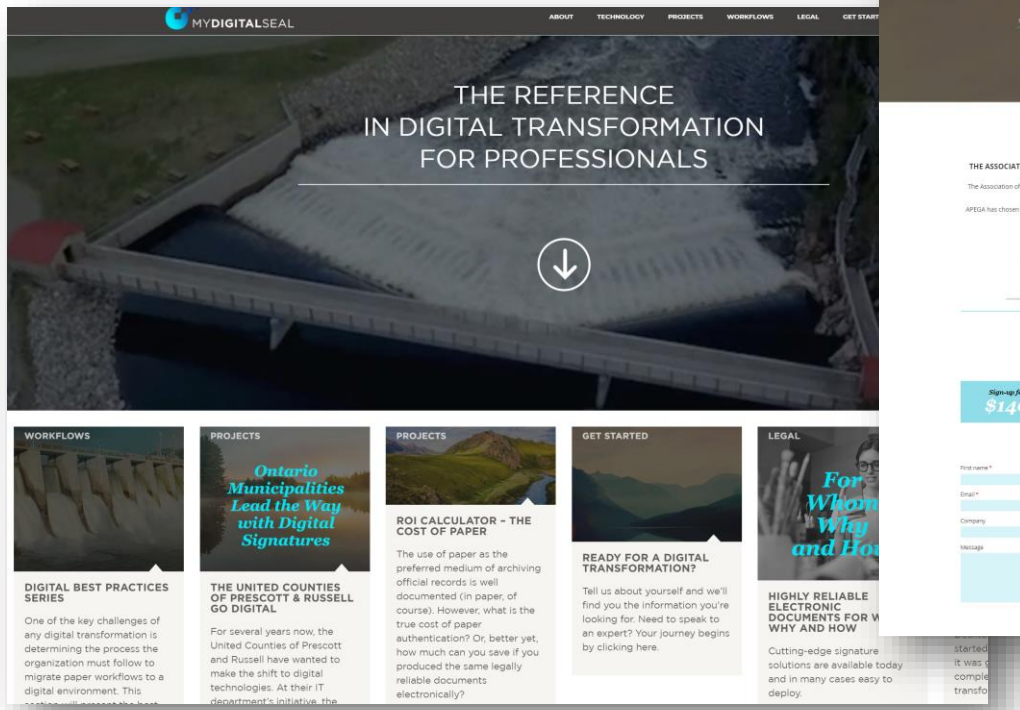
Customer Care

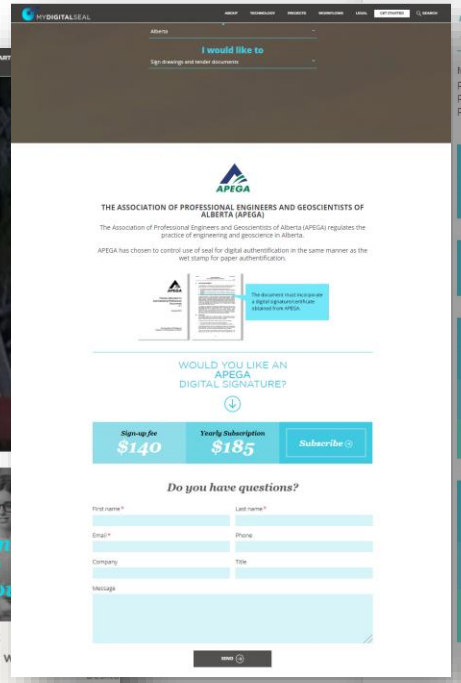
Notarius presently services a large community of users from coast to coast. As such, our digital signature services include a variety of training tools and assistance, free of charge.

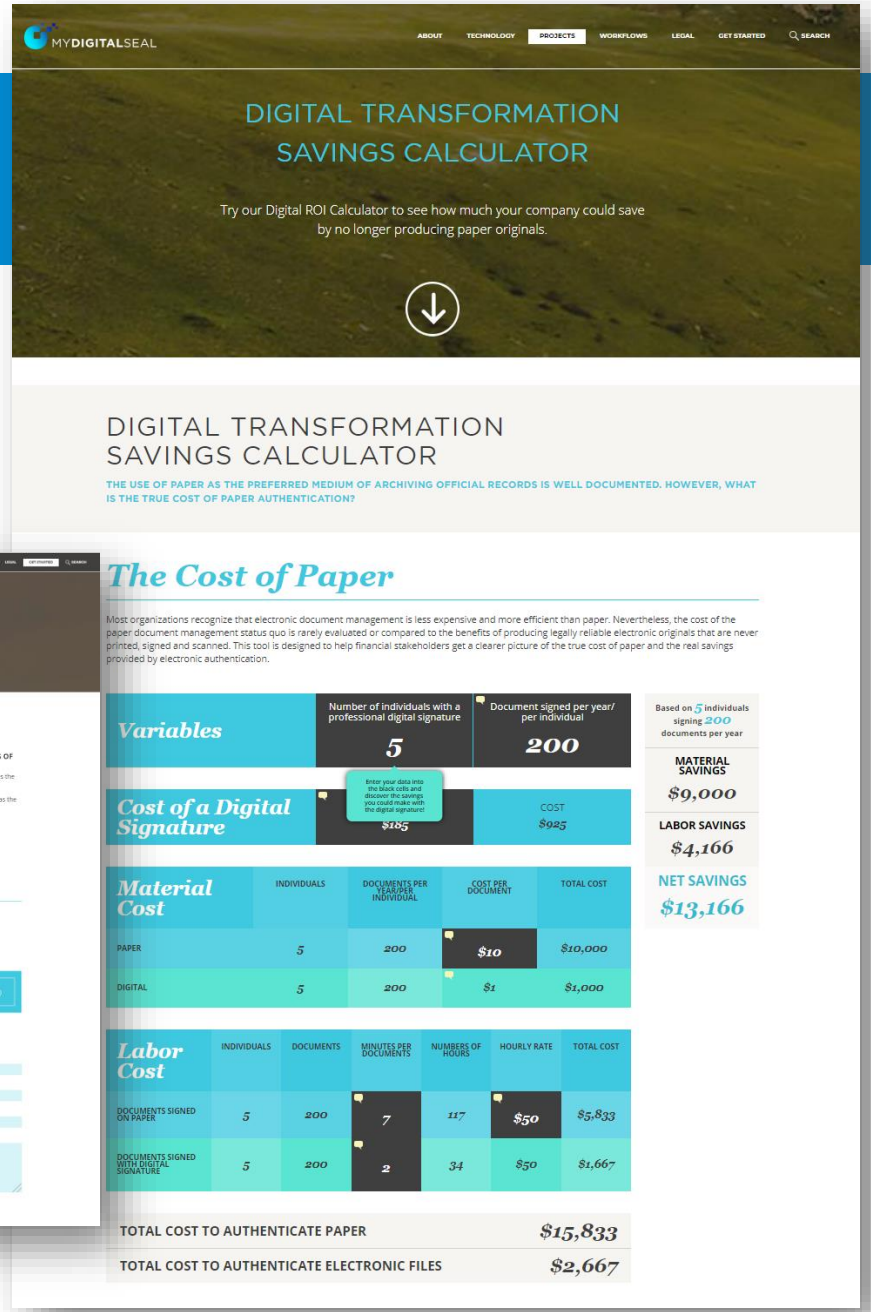
- **Help/FAQ Section**: https://notarius.com/help
- **ConsignO Desktop Training Videos:** https://notarius.com/videos
- **ConsignO Desktop User Guide:** https://notarius.com/guide
- **Live Webinar every Wednesday at 1PM Eastern Time:** https://notarius.com/webinars
- **Support via Email:** support@notarius.com
- **Support via Phone:** 1-855-505-7272
- **Online Chat Service.** https://notarius.com

www.mydigitalseal.com

Mydigitalseal.com web site was designed as a one stop shop to find key information related to digital transformation of professional documents from paper to electronic authentication.

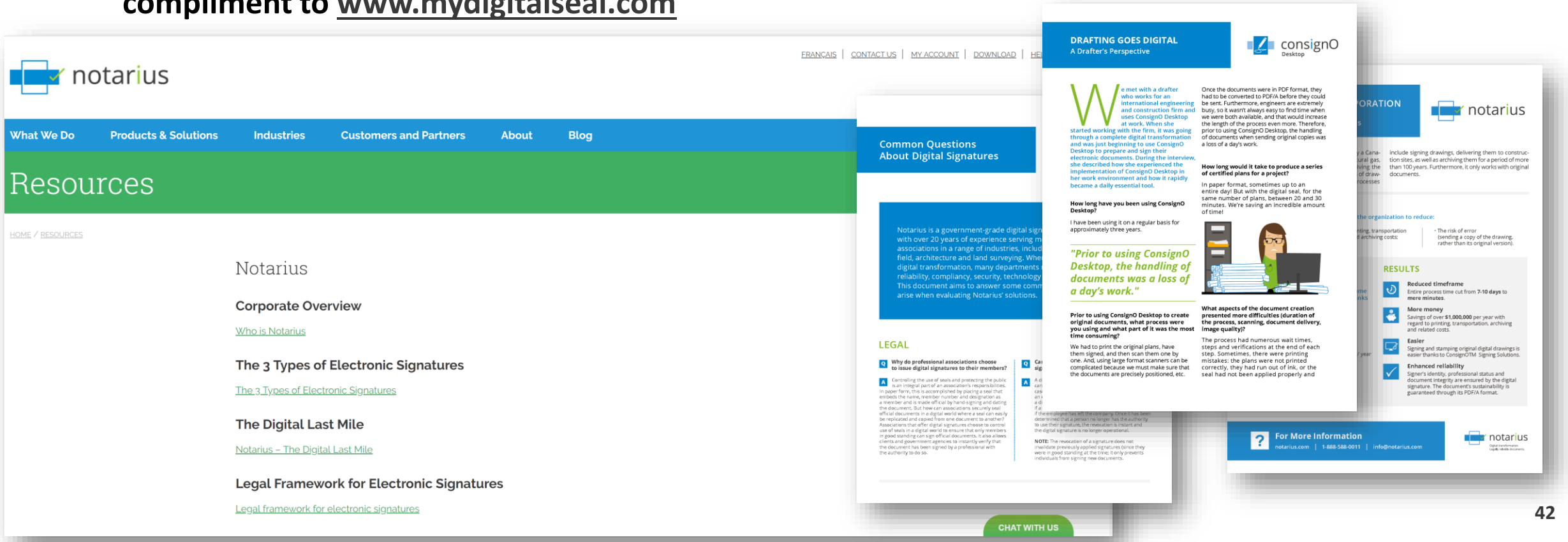






www.notarius.com/resources

This web page is filled with numerous documents to assist firms that may have questions about digital signatures from a legal, security, technology or application perspective. It is meant as a compliment to www.mydigitalseal.com



Next Steps?

- What documents should be digitally signed? Drawings/Reports/Project Updates
- Who should have a digital signature versus an electronic signature? Engineers/Geoscientists or administrative staff
- Who should lead this project? IT/Document Control/Project Management
- What documents require signatures from outside parties? Clients/Suppliers
- Where do you begin the digital transformation? Drawings or Administrative Documents
- When do you start?

Contact

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