Technology and Trade Compliance

Insights from Industry Experts

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We create **technology** to transform the everyday, for **everyone**

Our Trade Compliance Technology **Journey**

Where should I **Start?**

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We create **technology** to transform the everyday, for **everyone**

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We create technology that the world needs – in

industry, infrastructure, mobility, and healthcare.

These industries are the backbone of our economies – and for all of them, digitalization offers tremendous opportunities to become more competitive, more resilient, and more sustainable.

With our technologies, we empower our customers to accelerate their digital and sustainability transformations.

Together we're transforming the everyday, for everyone.

Dr. Roland Busch
President and CEO of Siemens AG

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By combining the real and the digital worlds, Siemens empowers customers to accelerate their digital and sustainability transformation

Glass Production

Pharma-ceutical Industry

Campus

Tire Industry

Mining Industry

Cement

Transpor-tation and Logistics

Panel Building

Wind Energy

Pulp and Paper

Life Science

Healthcare

Oil and Gas Industry

Automotive Manu-facturing

Airports

Electronics Industry

Semi-conductors

Data Centers

Machinery and Plant Production

Food and Beverage

Water and Wastewater Industry

Chemical Industry

Municipalities and DSOs

Cranes

Intralogistics

Aerospace

Battery Manu-facturing

Real world

Digital world

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… built in factories running on **Siemens automation** …
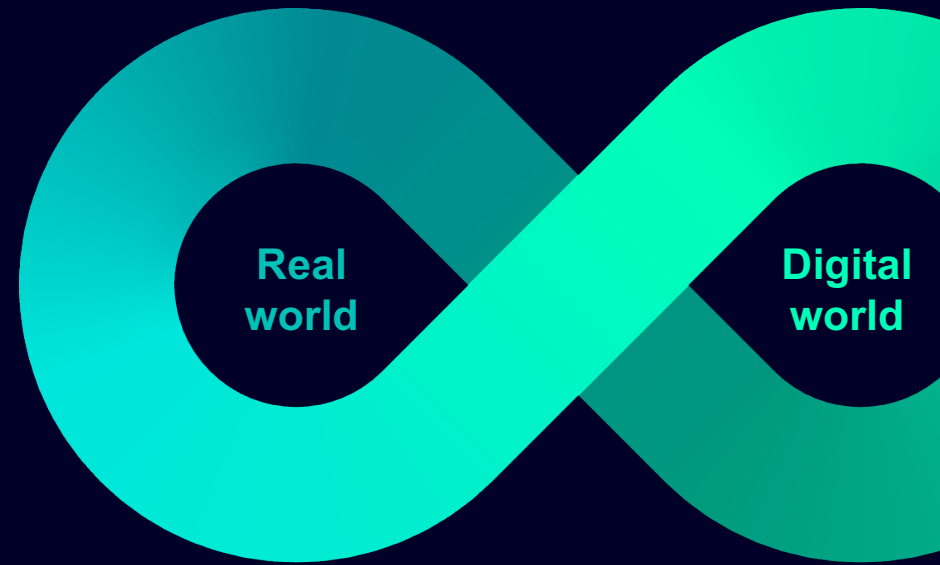
We commute in cars designed with **Siemens software** …

… and charged by a Siemens **smart grid**.

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… that use energy
with **maximum efficiency** …

We work in smart buildings that
promote our **health** and **safety**
…

… and connect the **physical**
and the **digital** workplace.

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… to travel on **trains made by Siemens** ...

We book our train tickets with **Siemens software** …

… operated with Siemens **infrastructure technology**.

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Our Trade Compliance Technology **Journey**

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Tax Tech Lab US
Example Projects

Heavy Hitters

TradeXcelerate
Global trade management tool built in-house that stores Siemens' entry data, product classification, and allows communications between internal and externals.

Reconciliation Management
Custom application to manage value / FTA reconciliation of imports crossing the US border. Application reduced manual work while allowing for processing of additional FTA claims, estimated return on investment of $108k over three years.

Daily Transformation

Validation: Entries not flagged for Value Recon
Leveraging the data from TradeXcelerate where entries with incorrect Value Recon flag can be caught before the 10-day mark.

Check Refund Process
Reporting coming out of accounting can be cumbersome to process and get the details out of. This alteryx process can take Excel report, and output clean report ready to go into PAM app to keep track of refunds received.

Business Continuity

Post-Entry Activity Management (PAM)
Risk management tool to standardize audits regardless of user, meet minimum identified review requirements, and help determine is post entry correction is needed.

Forward Looking

Datalake 2 Go (D2G)
Shifting of internal databases to the cloud for speed, scalability, and ease of access to our department. Central component in ensuring our department will have the data it needs on hand to do their daily work.

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Our Technology Journey
Methods & Standards ~ 2015

- Tasked to standardize processes within our customs organization. E.g., varying processes across BU's.

- Responsible for centralizing all customs reporting within the organization.

- Developed first harmonized dashboards to manage customs KPI's across multiple BU's.

Tech Tip: PowerBI is a potential alternative to Tableau and is often readily available to you.

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Our Technology Journey
Business Intelligence (BI)

- Our BI dashboards gave immense visibility and value to stakeholders.

- "Self-Service" aspect removed M&S being the roadblock for reporting.

- Data quality issues began to arise causing stakeholders to lose trust.

- Managing our data / updating our dashboards became very slow.

Tech Tip: Don't boil the ocean! Focus first on 2-3 KPI's as a starting point, then move on to others.

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Our Technology Journey
Database Management

- We housed all our data in an Access database which would often freeze due to the size of our data.

- Eventually, we would upgrade to an on-premises Microsoft SQL server, greatly improving update speeds.

- However, data quality issues persisted, and feeding this database took an immense amount of time.

Tech Tip: Check with your IT department to see what database solutions are available.

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Our Technology Journey
Extract, Transform, Load (ETL)
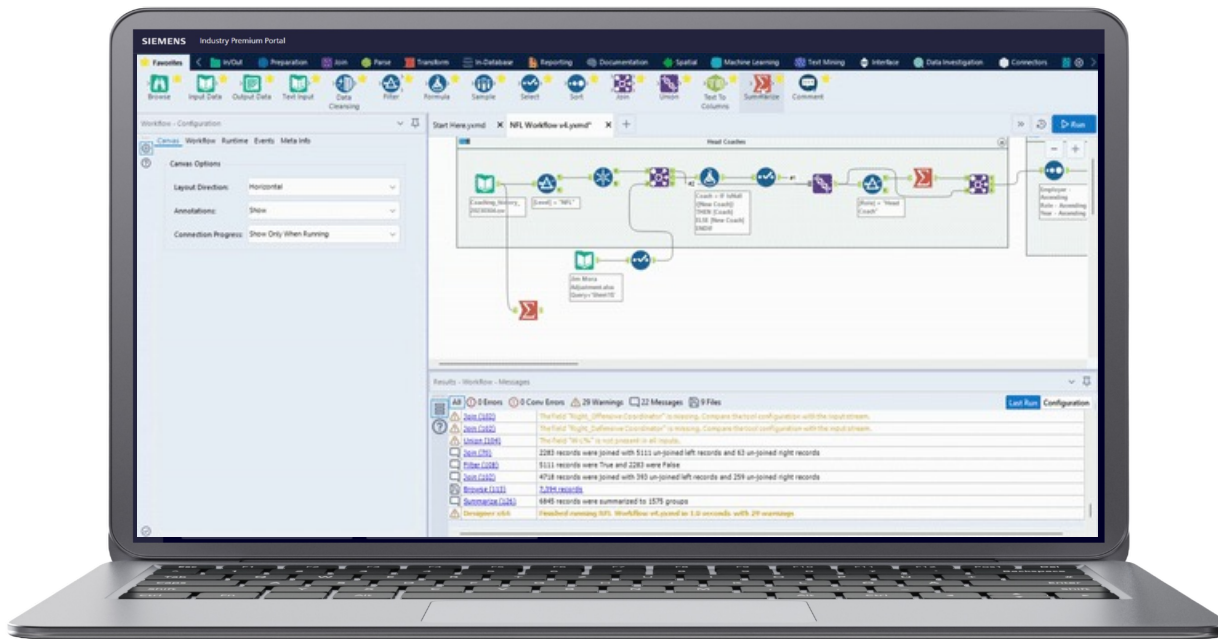
- We switched our ETL process from using complex SQL scripts to be workflow driven with Alteryx.

- Alteryx allowed us to automate our monthly update process from one week to one day.

- It's data cleansing tools allowed us to ensure the quality of our data across the board.

Tech Tip: Knime is a potential alternative to Alteryx. Tableau Prep can also now help in cleaning data.

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Our Technology Journey
Analytics Process Automation (APA)

- Beyond automating our ETL processes, we discovered the value of Alteryx for further automations.

- For example: Automatically performing a statistical sample of our entries for internal audits.

- For example: Automatically corelating refund checks w/ entry data to submit to accounting.

Tech Tip: Look for highly manual processes that are done on a routine basis, e.g. generating weekly reports

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Our Technology Journey
Tax Tech Lab (TTL) - 2020

- TTL was founded to holistically provide technology solutions / capability to our department.

- Focus shifted further towards "self-service", i.e., how can we empower our employees.

- Larger projects undertook to develop full scale apps to manage processes like FTA Solicitation.

Tech Tip: Low-code tech like Alteryx / Tableau are excellent at extending a non-tech employee's capabilities

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Our Technology Journey
Building our "Tech-Stack": Source Data

Internal
ERP Systems, Global Trade
Management Solution

External
ACE, USITC

Supplementary
- FX Rates, Market Data, Regulatory References

Tech Tip: Follow the source – if possible connect to as close as possible to the original source.

Source Data

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Our Technology Journey
Building our "Tech-Stack": Cloud Harmonization

Snowflake

Cloud Harmonization

Source Data

Cloud Storage
Near real time data, extremely low storage cost, redundant backups

Cloud Compute
Scalable power to run intensive processes
POC testing showed reduction in calc time from 40 hr's to 1

Data Catalog
Building trustworthiness in the data and simplifies use
Self-service way for all employees to access data

Tech Tip: Validate and clean your data before it reaches your database. And run tests frequently.

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Our Technology Journey
Building our "Tech-Stack": Low Code Applications

Low-Code Development
Ability to build custom applications without programing knowledge

Connected Micro Ecosystem
Ability to leverage data across applications to improve efficiencies

Scalable
Can upgrade storage or compute power with click of a button

Tech Tip: Focus on user experience and the task at hand. Is the task necessary? Can it be automated or semi-automated?

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Our Technology Journey
Building our "Tech-Stack": Self-Service Applications

Self-Service Applications

Low-Code Applications

Cloud Harmonization

Source Data
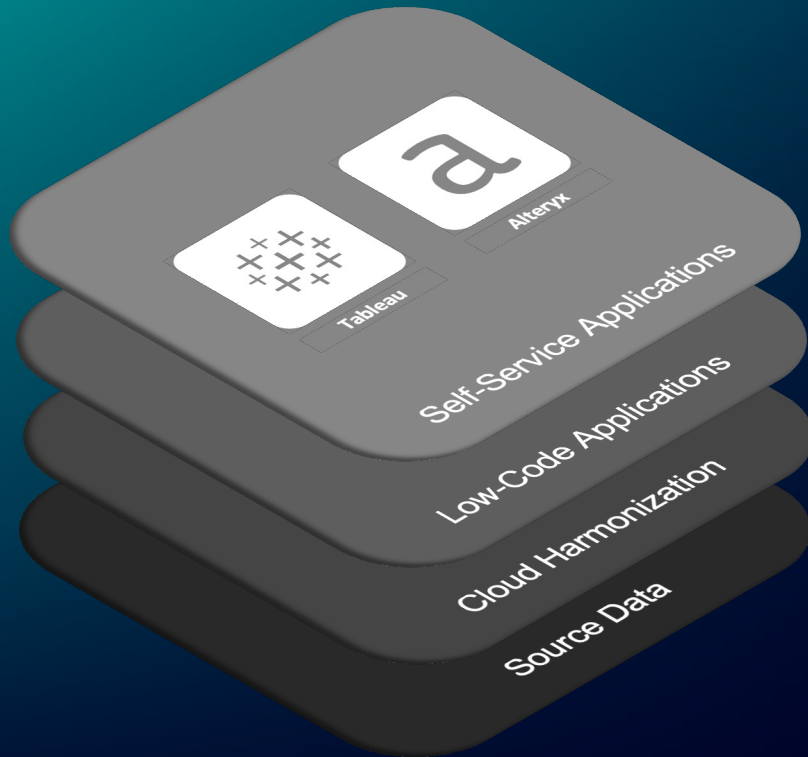
Data Visualization
Near real time dashboards to update key stakeholders

Analytics Process Automation
Improving efficiencies through speed and reusability

Imbedded Domain Knowhow
Built by tax personnel leveraging their knowledge

Tech Tip: Empower your team by providing templates to start working with these tools.

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Where should I **Start?**

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Where Should I Start?
Learn From Our Mistakes

- Focus on your data first, ensuring it is not only clean but easily accessible and maintainable.

- Don't over customize. Keep it simple so that dashboards/databases are easy to maintain.

- Incorporate diverse testing methods: automated testing, peer reviews, and user testing to identify issues

Tech Tip: Get feedback early often and early to pivot and adjust as necessary.

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Where Should I Start?
Identifying Processes for Automation

Monetary Perspective:
(Requires Positive ROI)

⬆ **High Volume**
Processes which have many transactions or process itself occurs frequently

⬇ **Low Variability**
Process does not change often and is black and white, not shades of grey

⬆ **High Intensity**
Level of manual effort required to complete the process is high

⬇ **Low Effort**
Effort required to implement a technology solution to augment the process

Compliance Perspective:
(ROI Not Relevant)

- Processes that are prone to human error

- Processes where data quality is an issue

- NEW processes required by new or changing regulations

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Where Should I Start?
Getting Funding Support

- Calculate time saving by showing how often the process runs / how long it takes to run

- Keep in mind other gains such as data quality, accuracy, timely refresh, etc.

- If possible, track how many times new process is ran on a monthly or quarterly basis to calculate actual savings

Tech Tip: Look for 1-2 key projects that can help you justify the cost of a tool like Alteryx.

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Where Should I Start?
When it's just me?

- What technology tools are available in your company that other groups are already using?

- Connect with other groups that may have similar goals and projects

- Collaborate with people in your team to define goals, identify pain points, and test.

Tech Tip: Focus on 20% of the tasks that will yield 80% of the results (Pareto Principle).

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Questions?

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