

Standards for Technology in Automotive Retail



STAR Briefing

STAR

August 13, 2009

STAR is...

- A non-profit, member-driven organization funded by dues paying members and founded in 2001
- Achieving its goal of leveraging non-proprietary technology standards to fulfill the business information needs of dealers and manufacturers while reducing the development time, effort and cost
- Developing voluntary industry standards and researching emerging technologies for the benefit of its members
- Considered the IT standards organization for the global retail automotive industry
- Membership Categories:
 - Manufacturers
 - Retail System Providers
 - DMS Providers, Industry Organizations, 3rd Party Providers
 - Dealers
 - Dealer Organizations

STAR has Developed...

- Over **140 XML messages**
 - Capable of both **global** and **cross-industry** support
 - **1035 unique components of business data**
 - **Covering over 35 business areas** from customer relationship management to fixed and variable operations
- **2 common architectures**
 - **Web Services**
 - **ebMS**
 - Both designed to promote the interoperable exchange of data
- Results:
 - **A robust, common business vocabulary and architecture solution**
 - Enabling effective, interoperable communications for implementers
 - **Saving time and expense previously required** to specify, develop and implement applications

STAR XML Interfaces

- STAR currently has a library of over 140 standard XML message formats covering over 35 business areas ranging from:
 - Customer Relationship Management
 - General Application Support
 - Parts Management
 - Sales & Finance
 - Service & Warranty
 - Vehicle Management

STAR XML Interfaces

Dealer & General Support	Service & Repair	Customer	Vehicle Mgt & Sales	Parts Mgt
Confirm BOD	Labor Operations	Credit Application	Initiative Download	Parts Activity
Financial Statement	Model Codes	Credit Contract	Retail Delivery Reporting	Parts DISPO
Standard Codes	Repair Order	Credit Contract Response	Validate Initiatives	Parts Inventory
	Service Plan	Credit Decision	Vehicle Inventory	Parts Invoice
	Service Processing Advisory	Dealer Locator	Vehicle Invoice	Parts Locator
	Vehicle Service History	Sales Lead	Vehicle Order	Parts Master
		Service Appointment	Vehicle Payments	Parts Order
			Vehicle Remarketing	Parts Pick List
			Vehicle Specifications	Parts Price List
				Parts Return
				Parts Shipment

NOTE: This information is based on a voluntary members-only implementation survey and does not reflect all STAR Member and Non-member implementations.



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STAR Architecture

- STAR supports two common architectures that leverage existing global standards:
 - STAR Web Services Specification
 - STAR Generic and Noun-Specific WSDLs
 - STAR ebXML Specification
- STAR is currently in the process of defining rules for Web Service interoperability to promote more consistent, interoperable implementations of the STAR Web Services Specification

A Global Solution

- STAR is a global solution supporting:
 - Asia-Pacific
 - Canada
 - Central America
 - Europe
- *"The existence of an international standard for automotive credit data that supports web services allowed Ford Motor Credit's GDI to provide a single, consistent interface across multiple markets. As GDI expands to additional dealer systems and markets, we have a proven, widely accepted message structure to offer our partners."*

Ford Motor Credit Company

2009 STAR Testimonial

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A Global Solution

- The STAR 5 Schema Repository leverages several **global standards** including ISO, OAGIS, UN/CEFACT CCTS, and W3C allowing STAR to support:
 - Multiple languages
 - ISO country, currency, and language codes
 - Common, globally & cross-industry functional core components:
 - Address, Party, Contact, Communication, etc.
- All of STAR's Architecture specifications leverage **global standards** including ISO, OASIS, WS-I, and W3C and are themselves globally compatible

STAR Global Implementations

- BMW Germany
 - STAR worked jointly with BMW Germany and BWM NA to develop two STAR standards:
 - Parts Activity
 - Parts DISPO
 - Both standards were implemented by BMW Germany in 2007

STAR Global Implementations

- Ford Credit Asia Pacific:
 - Global Dealer Interface - using STAR went into production in June 2008
 - The number of transactions exceeded expectations for that market:
 - up to 300+ ProcessCreditApplications a day
 - sometimes over 1100 ProcessCreditDecisions a day
 - Looking to implement China in 2009

STAR Global Implementations

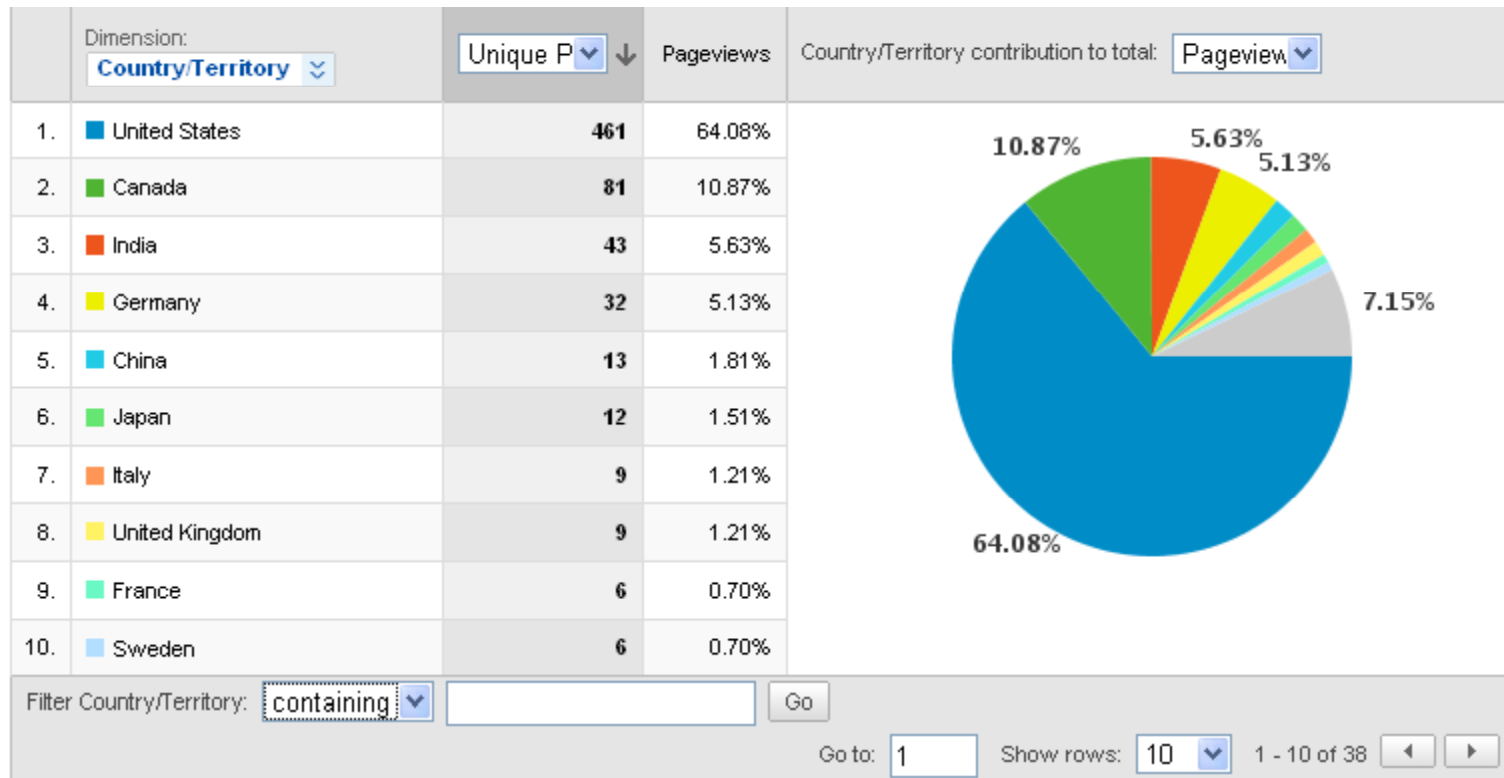
- Ford Credit Europe:
 - Spain 4th quarter 2008
 - UK targeted for 2009
 - Italy on hold
 - Talks of GDI implementations in Finland
- Ford Asia Pacific
 - Dealer Communications Hub Upgrade
 - Parts Inventory, Parts Invoice/Shipment, Parts Master, Parts Order, Vehicle Payments, Vehicle Invoice/Inventory
 - Initial 2009 Implementations in Ford Australia
 - Plans to roll out to all regions in Ford Asia Pacific

STAR Global Implementations

- Renault & Peugeot Citron
 - Sales Lead Pilot 2009
- AsConAuto (Italy)
 - Parts Invoice 2009
 - Parts Order 2009
 - Parts Shipment 2009
- Navistar
 - Columbia 2009
 - Parts Order
 - Repair Order
 - Mexico 2010
 - Parts Order
 - Repair Order
- All STAR Global implementations utilize a **single STAR canonical model**, the same model utilized by:
 - US Markets
 - Related Industries including Marine, Medium & Heavy-Duty Truck and Powersports

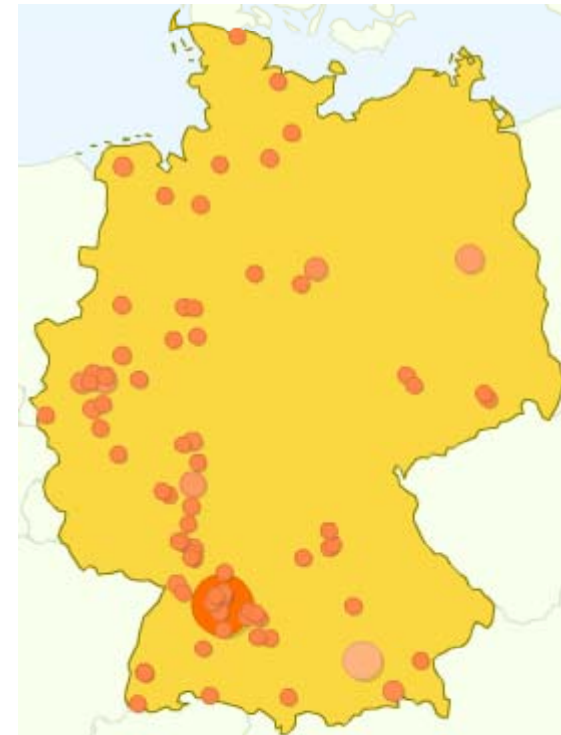


Global Interest 2009



German Interest 2009

1.	■ Stuttgart	92	21.35%
2.	■ (not set)	51	11.83%
3.	■ Munich	47	10.90%
4.	■ Berlin	25	5.80%
5.	■ Wuppertal	21	4.87%
6.	■ Frankfurt am Main	20	4.64%
7.	■ Wolfsburg	13	3.02%
8.	■ Dusseldorf	10	2.32%
9.	■ Raubling	9	2.09%
10.	■ Heidelberg	8	1.86%



Supporting Global Members

- STAR support for global implementations is identical to that of US implementations:
 - Modification Requests
 - New Standards Development
- In 2008 STAR incorporated approximately 170 additional requirements for Ford Europe, Peugeot Citron, and Renault
- Year to date, STAR has incorporated approximately 26 additional requirements for Ford Asia Pacific
- *"The main lesson learned is that STAR BODs fit the needs of North America and European OEMs with little adaptations. This is another example of STAR's ability to provide global solutions for its members and the overall user community."*

David Bequis, Renault S.A.S



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OEMs Using STAR in 2008/2009

- Based on STAR's 2008 & 2009 Member Implementation Survey:
 - BMW
 - Daimler Trucks
 - Ford
 - Honda
 - Mazda
 - Navistar
 - PACCAR

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OEM 2008/2009 Spec Usage

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The Value of Standards

- Standardization leads to:
 - Increased global interoperability
 - Building once and optimizing reuse
 - Reduced barriers and lowered cost of integration
 - Increased global integration
 - Decreased time to develop and deliver applications
- *"Use of the STAR standard eliminates the need to define or revise our messages each time GDI services a new dealer system. This has reduced the time and effort that we spend on each additional GDI market, resulting in a significant return on the initial investment of implementing the STAR standard."*

Ford Motor Credit Company

2009 STAR Testimonial

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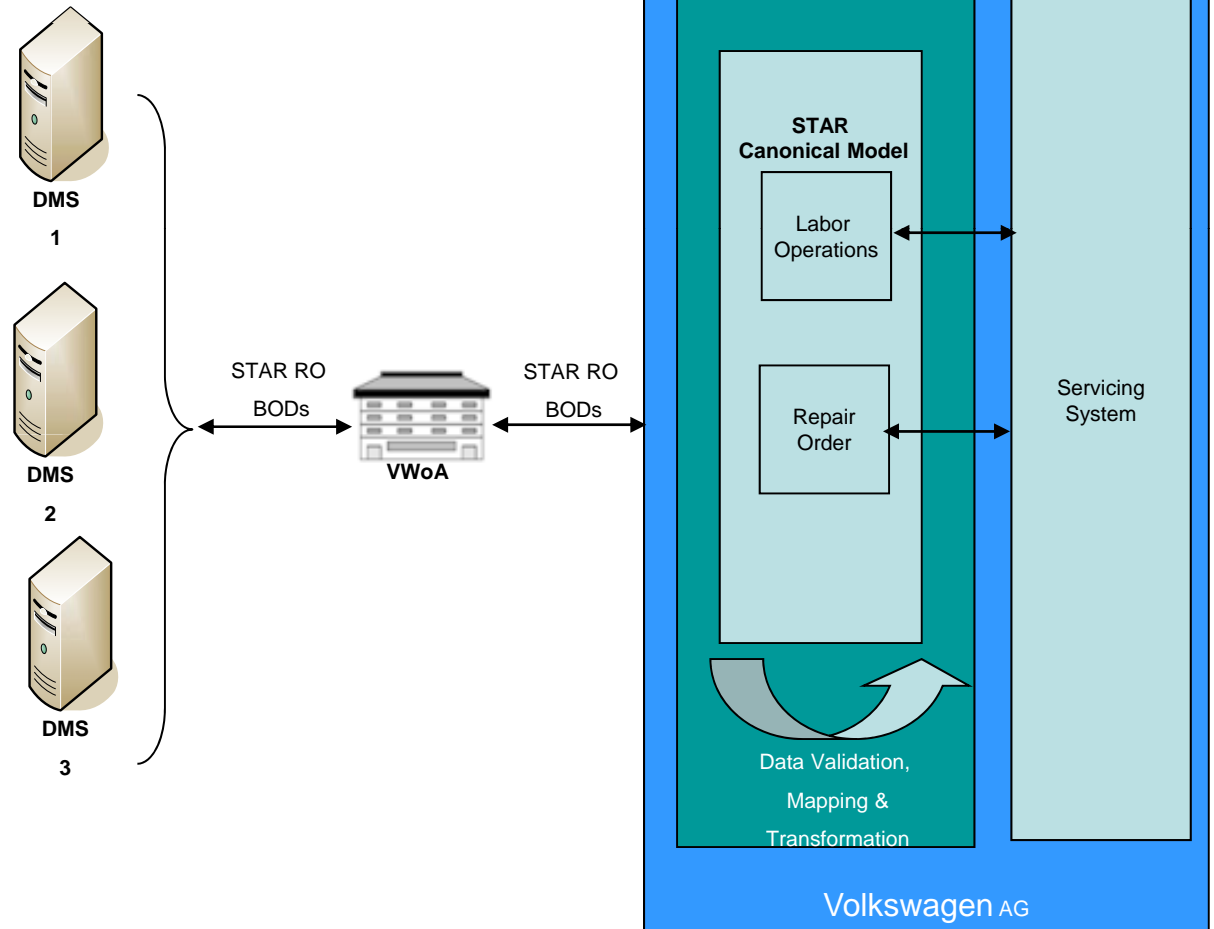


The Value of Interoperability

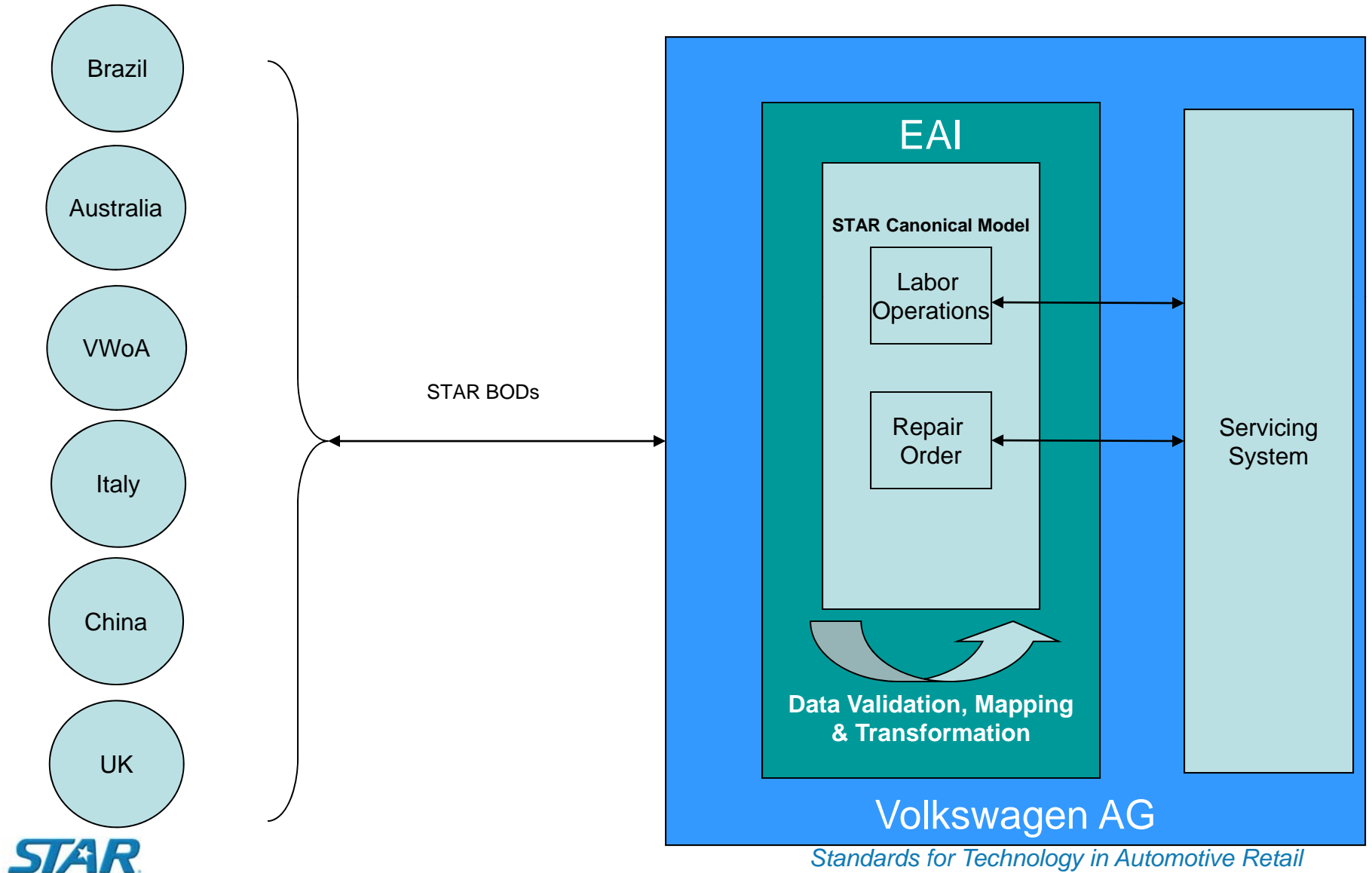
- The use of a common set of exchange formats and a standard protocol such as STAR for all regions can reduce overall development and maintenance costs
- Not investing in interoperability means investing in:
 - Additional time, expense and resources required to perform and maintain data mappings not just once but each time there is a changed or new requirement
 - Additional expense of tooling to perform and maintain intricate mappings and data transformations
- All trading partners bear the cost associated with non-interoperability

Implementing STAR Means...

Using a single, global canonical model to enable effective, efficient integrations and communications with your trading partners throughout the world.



STAR as the Global Canonical Model



VWoA's Past STAR Success

- First OEM to roll out an open, standards-based DCS
- First OEM in the automotive industry to put XML interfaces in production using the ebXML transport protocol
 - A decision that would later influence GM to move forward with ebXML
 - STAR would go on to adopt VWGoA's implementation of ebXML as the industry guideline
- First OEM to provide dealer interfaces in the STAR XML format to ADP and Reynolds & Reynolds

VWoA's STAR DMS Project Success

- First open standards-based DCS replacing proprietary transactions with STAR XML-based interfaces:
 - Financial Statement
 - Labor Operations
 - Parts Inventory
 - Parts Order
 - Parts Return
 - Parts Shipment
 - Repair Order
 - Service Processing Advisory

OEM Benefits Realized

- Improved operational efficiencies
 - Less staff required to support operations
- Reduced IT infrastructure while increasing operational reliability
- Improved business agility
 - Increased flexibility and speed to implement new applications

Dealers Benefits Realized

- For the Dealer standards mean:
 - Increased competition and a rise in the quality of IT vendor choice for dealers
 - Reduced cost and complexity
- VWoA's original STAR implementation resulted in:
 - Reduced dealer IT costs by approximately \$2,000 per year
 - "...more than a thousand dealers representing five brands use the system with annual savings of 2,000 dollars per dealership."
 - Increased the dealers' DMS provider choice from 2 to 12+

Joining STAR

- VWoA has made a highly significant, highly successful investment in STAR standards
- This investment has clearly differentiated VWoA as an industry leader with its innovative and forward thinking approach to communicating with its dealer community
- Global membership & implementation with STAR would be an opportunity to:
 - Secure VWoA's initial STAR investment
 - Expand on VWoA's success at a global level providing integration and standardization all through a single globally-supported canonical model

Not Joining STAR

- A non-member using STAR standards has:
 - No voice in how the standards that it currently uses are modified
 - No advanced notice of the types of changes being made
 - No advanced copy of drafts for testing

Working with STAR Means...

- Taking advantage of STAR's Agile development methodology that provides members with efficient, responsive results to their:
 - Requests to modify existing specifications to meet new requirements
 - Value statements to champion the development of new standards
- Participating in standards development workgroups led by full-time technical staff and getting advanced notification of upcoming changes and new projects on the horizon
- Getting access to
 - Bi-weekly milestones and drafts of active projects
 - Member only implementation tools, technical training sessions and discussion forums



Technology dedicated to **YOUR** business efficiency

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