

autocare[®] CONNECT

MAY
2022



The logo features a large circular graphic composed of two overlapping rings, one grey and one green, with a gap at the top. The text 'ACPN' is in grey, 'knowledgeexchange' is in green, and 'CONFERENCE' is in grey below it. The background is a pattern of green dots of varying sizes and colors (light green, medium green, dark green) arranged in a circular, radiating pattern.

ACPN
knowledgeexchange[®]
CONFERENCE

The text is in a bold, green, sans-serif font. The background behind the text consists of several overlapping, rounded rectangular shapes in a light grey color, creating a layered effect.

An Introduction to
ACES and PIES

Aka Bootcamp



Ever done a home plumbing project?



Ever done a home plumbing project?

- Every store is going to have inter-operable parts
- We (the consumer) are the beneficiaries
- This doesn't magically happen



What are the Effects of Standards?



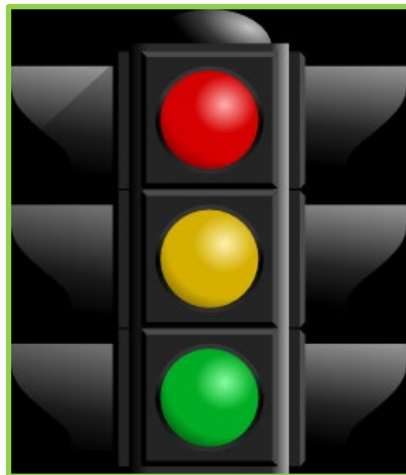
Consistency **Enables** Scale

Who is Auto Care?



- Trade Association (not-for-profit) represents its members
- Primary focus is Aftermarket
- Membership money funds activity that benefits all of us
- Members provide direction through volunteer committee service
- Reference data and data-exchange standards are the product
- Provides resources such as:
 - Advocacy
 - Education
 - Networking
 - Technology (Data Standards)
 - Market Intelligence

Examples of Standards



Wire Color Code

RED
Indicates the secondary live wires in a 220-volt circuit, used in some types of switch legs and in the interconnection between smoke detectors that are hard-wired into the power system.

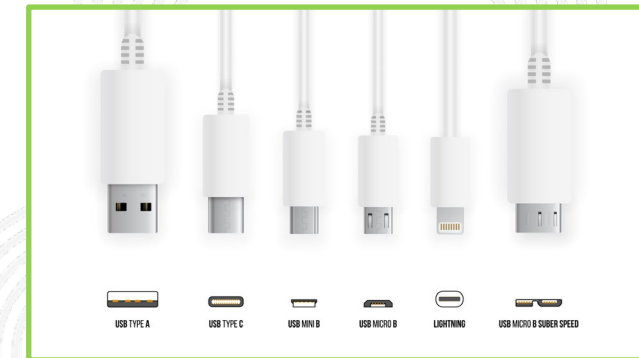
GREEN
Indicates the grounding of an electric circuit.

YELLOW AND BLUE
are also used to carry power but are not for wiring the outlets for common plug-in electrical devices.

WHITE AND GRAY
Indicate a neutral wire.

BLACK
Is used for power in all circuits.

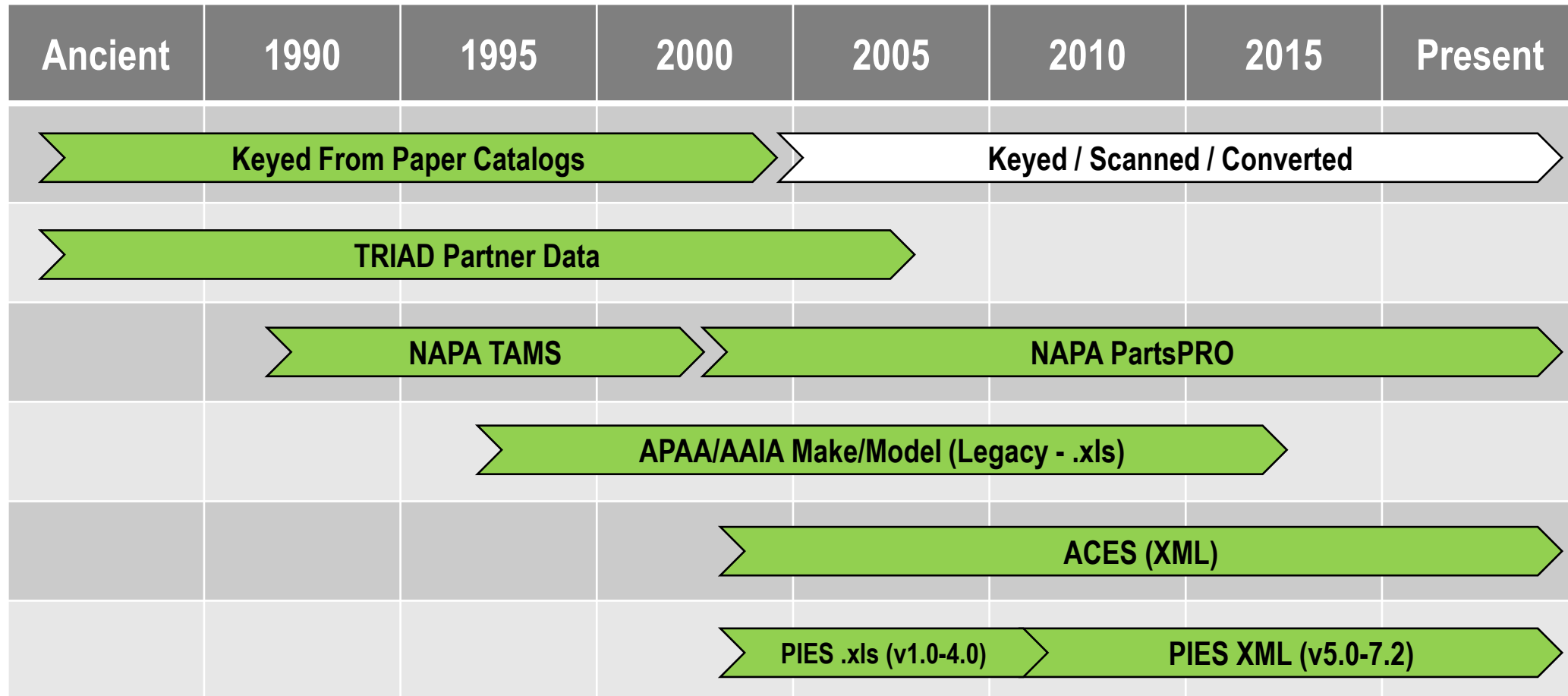
Regulatory Signs



Our Industry Data Standards



The History of the Standards



Who is Using the Standards?



**Data
Suppliers**



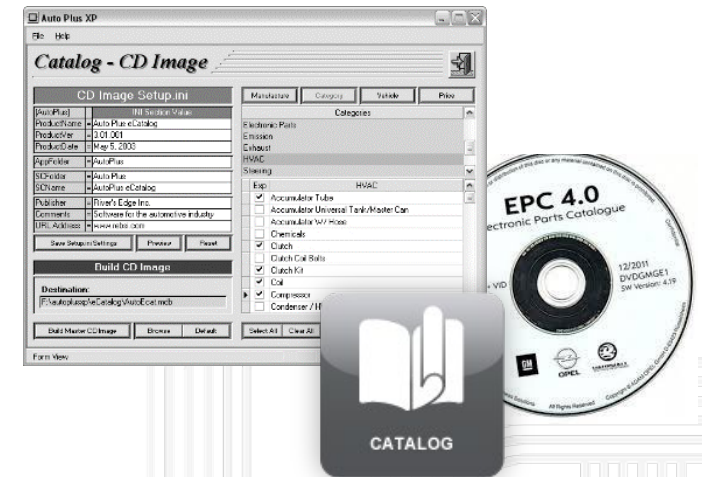
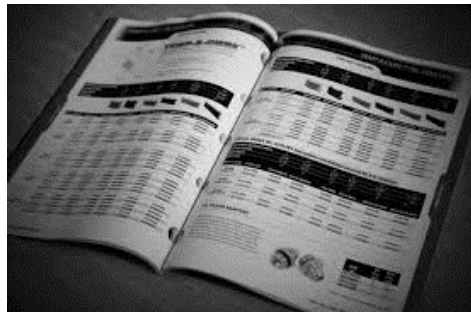
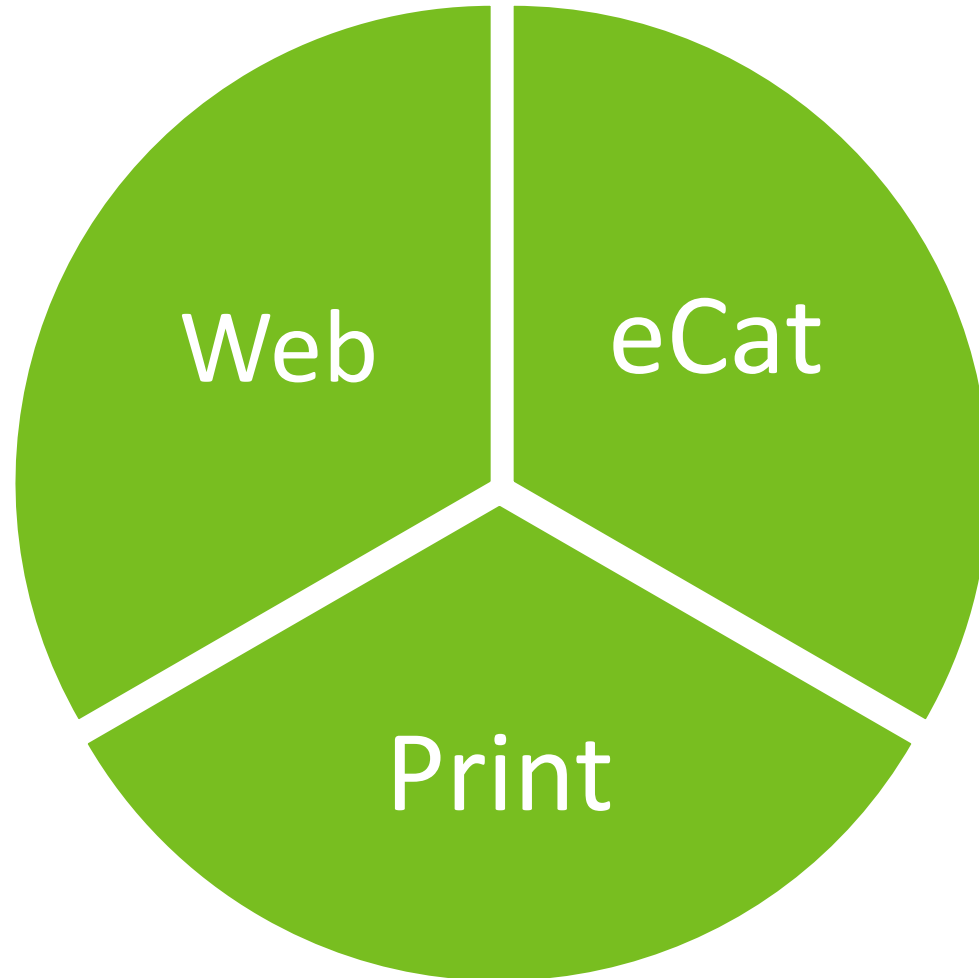
**Software
Developers**



**Data
Receivers**



Where are the standards are being used?



The Value of Aftermarket Data Standards



- Increase Sales
 - Satisfy the Customer
- Improve Margins
 - Enable e-commerce
 - Sell-up
- Reduce Returns
 - Right ... the First Time



Happy, Satisfied, Loyal = SALES

Overview



- ACES and PIES Overview
- Who manages the Data Standards?
- How do I make changes to the Data Standards?
- Training and Resources
- Recommended ACPN Conference Sessions
- Question / Answer

Acronyms Defined



- Vehicle Configuration (VCdb)
- Product Category (PCdb)
- Qualifier (Qdb)
- Brand

Which Vehicles Link to
Which Products



- Product Category (PCdb)
- Product Attribute (PAdb)
- Brand

Products Explained
In Detail

Aftermarket Catalog Exchange Standard (ACES)

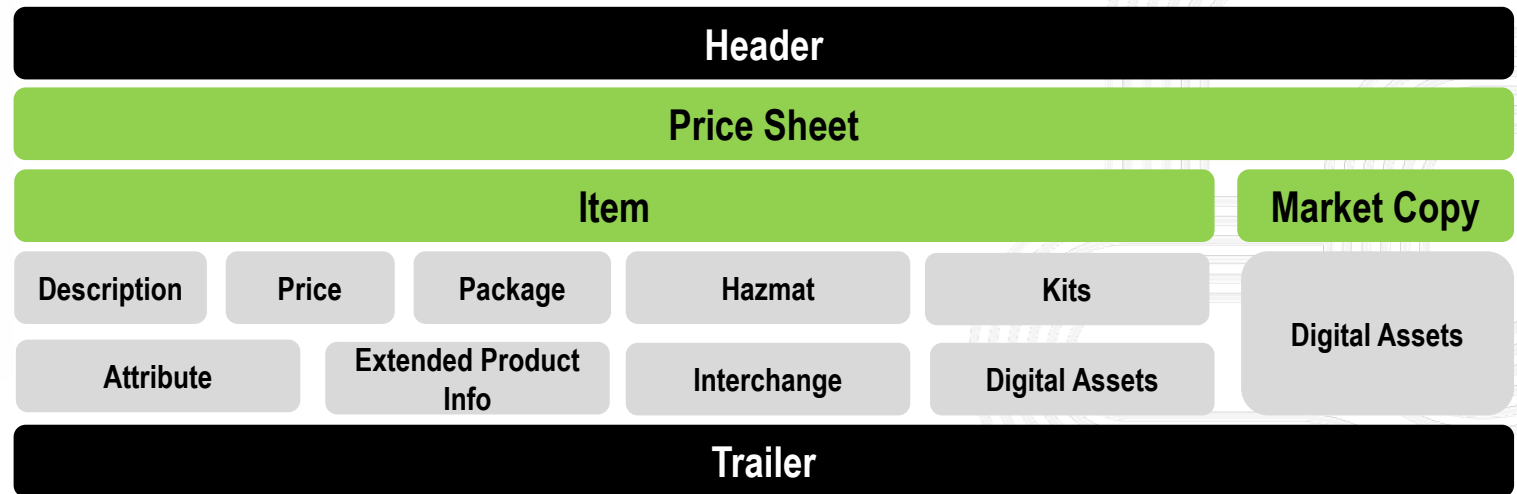


- Aftermarket Catalog Exchange Standard
- Standardized Transmission
- Data Supplier Products
- Vehicle Attributes
- Parts Classifications
- Qualifiers
- Application Specific Digital Assets
- Increases the efficiency of an organization by saving money and time, and increasing sales

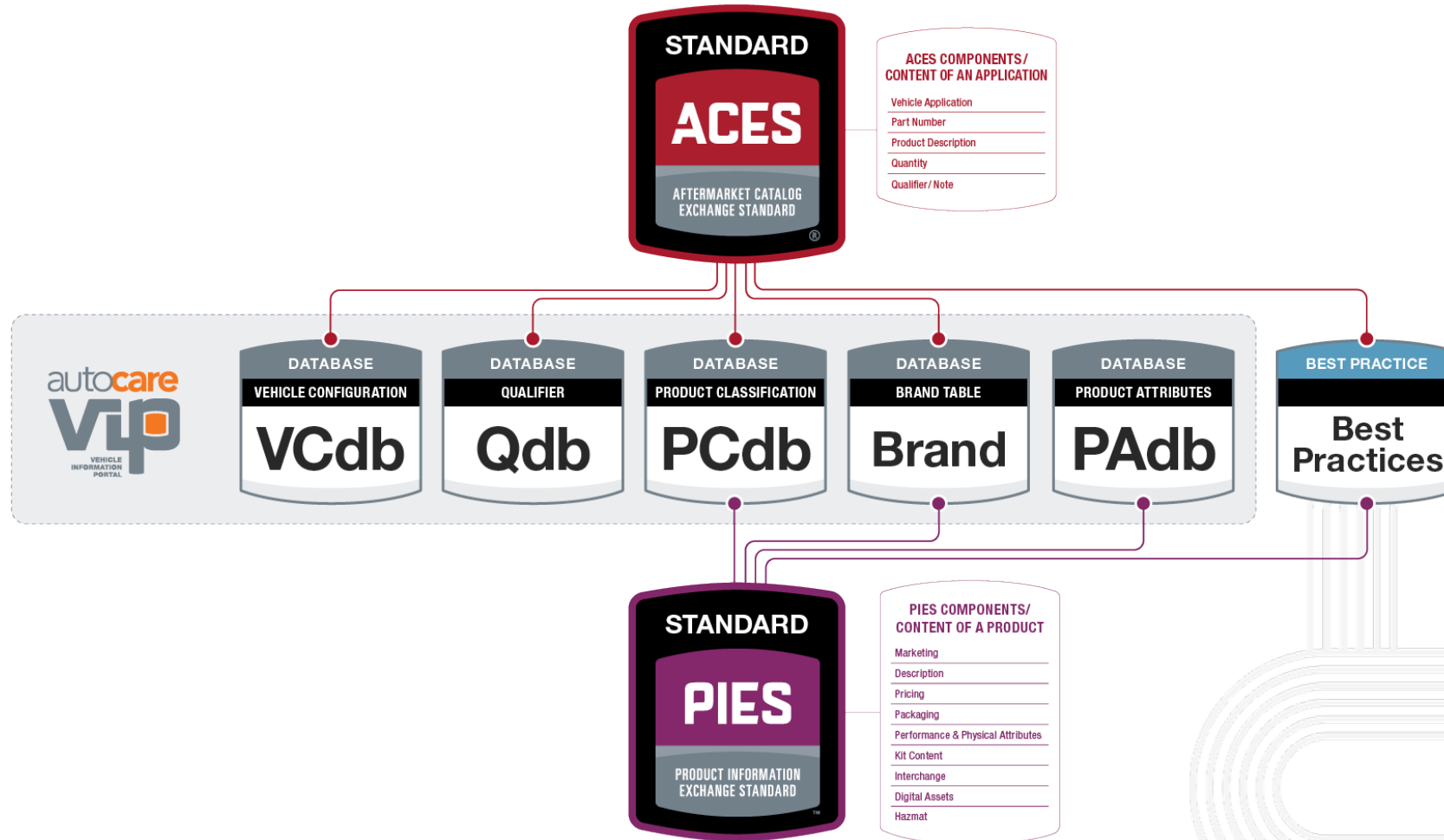
Product Information Exchange Standard (PIES)



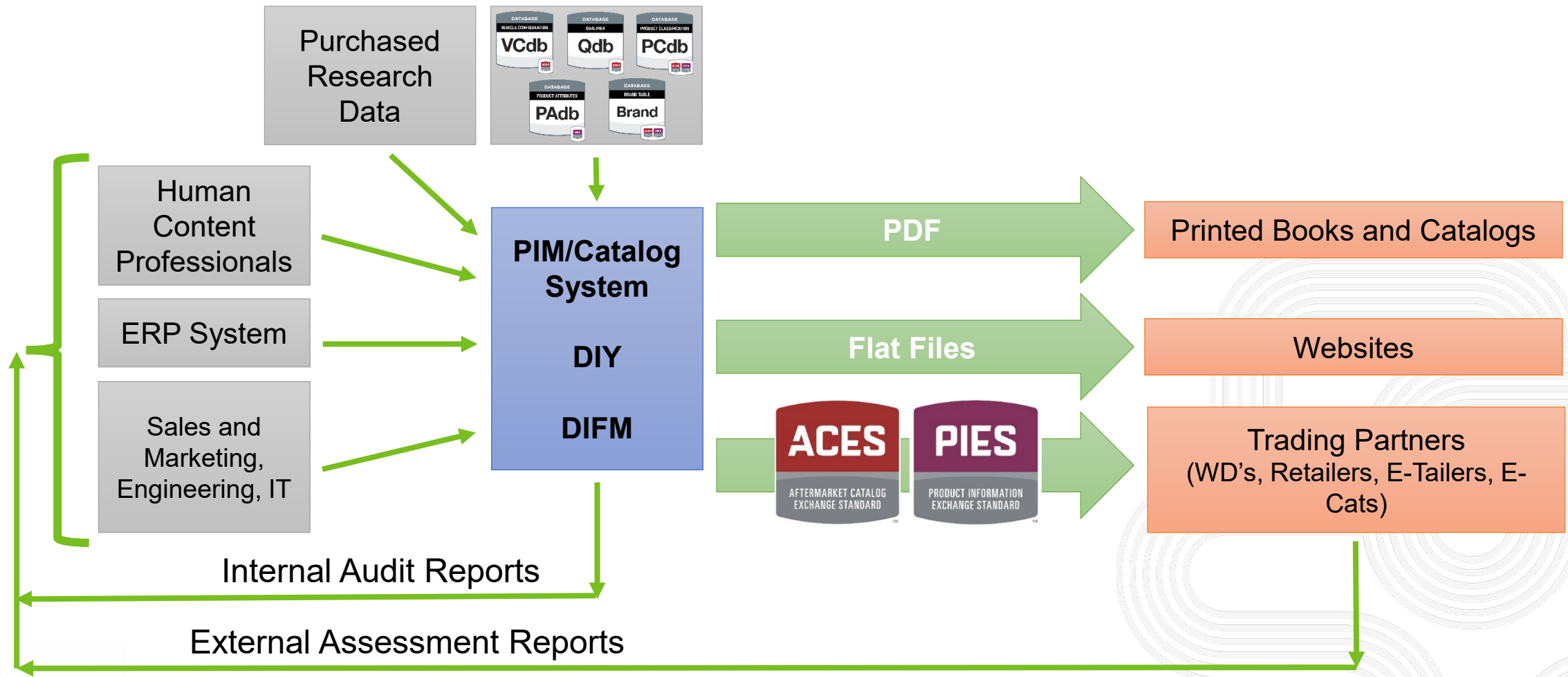
- Standardized transmission
- Shorten product introduction cycles
- Lower operating costs through reduced order processing, invoicing and shipping errors.
- Increases the efficiency of an organization by saving money and time, and increasing sales



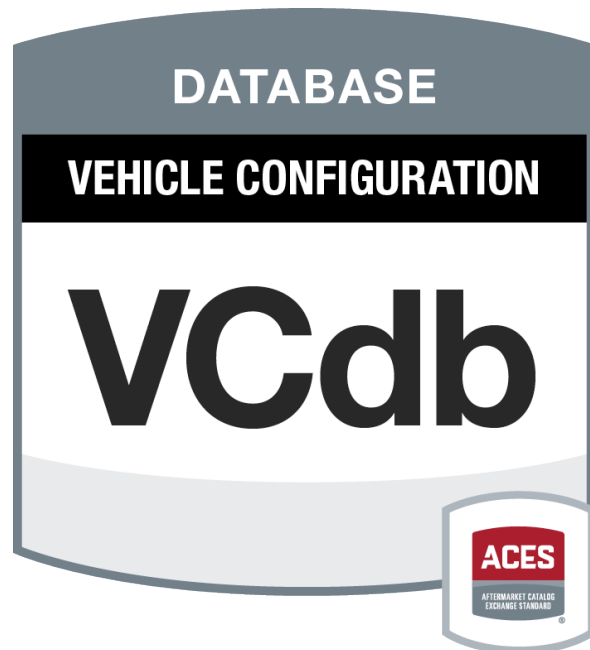
The Reference Databases



How do ACES and PIES files get made?



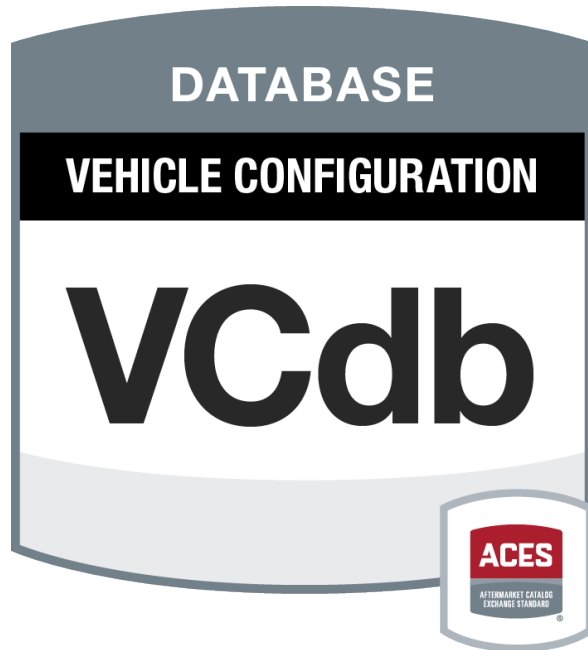
Vehicle Configuration Data Base (VCdb)



- Vehicle year range spanning from 1896 to present
- Includes automotive, medium duty, heavy duty, powersports, off-highway, and equipment
- Currently includes vehicles sold in US, Canada, Mexico, Colombia, Chile, Brazil, Argentina, Ecuador, Peru and Costa Rica
- Over 85,000 Year / Make / Model vehicle combinations
- Over 40 Vehicle Attributes



Vehicle Configuration Data Base (VCdb)



VehicleType
Make
Model
Year
SubModel
MfrBodyCode
BodyNumDoors
BodyType
DriveType
EngineBase
EngineDesignation
EngineVIN
EngineVersion
EngineMfr
PowerOutput
ValvesPerEngine
FuelDeliveryType
FuelDeliverySubType
FuelSystemControlType
FuelSystemDesign
Aspiration
CylHeadType
FuelType
IgnitionSystemType
TransmissionMfrCode
TransmissionBase
TransmissionType
TransmissionControlType
TransmissionNumSpeeds
TransElecControlled
TransmissionMfr
BedLength
BedType

WheelBase
BrakeSystem
FrontBrakeType
RearBrakeType
BrakeABS
FrontSpringType
RearSpringType
SteeringSystem
SteeringType
Region



Qualifier Data Base (Qdb)



- Standardizes terminology
- “With Air Conditioning”, “w/ Air Conditioning”, “w/ A.C.”, “w/Air Conditioning”, “With Air Cond.” All of these = 2341.
- Eliminates free-text qualifier expressions
- Faster selection of the correct part at the counter or online (less training, less experience)
- More sophisticated data management opportunities
- Centralized language translation



Product Classification Data Base (PCdb)



- Coded product description hierarchy
- Includes application specific and non-application specific product descriptions
- Containing over 36,000 product descriptions

Part Terminology ID	Part Terminology Name	Position ID	Position Name
1684	Disc Brake Pad Set	22	Front
1684	Disc Brake Pad Set	103	Front Left
1684	Disc Brake Pad Set	104	Front Right
1684	Disc Brake Pad Set	30	Rear
1684	Disc Brake Pad Set	105	Rear Left
1684	Disc Brake Pad Set	106	Rear Right



Brand Table



- Coded brand hierarchy
- Helps to uniquely define brand relationships
- Contains over 14,000 brands
- A valid 4-character Brand Code is a key field in PIES and ACES data files

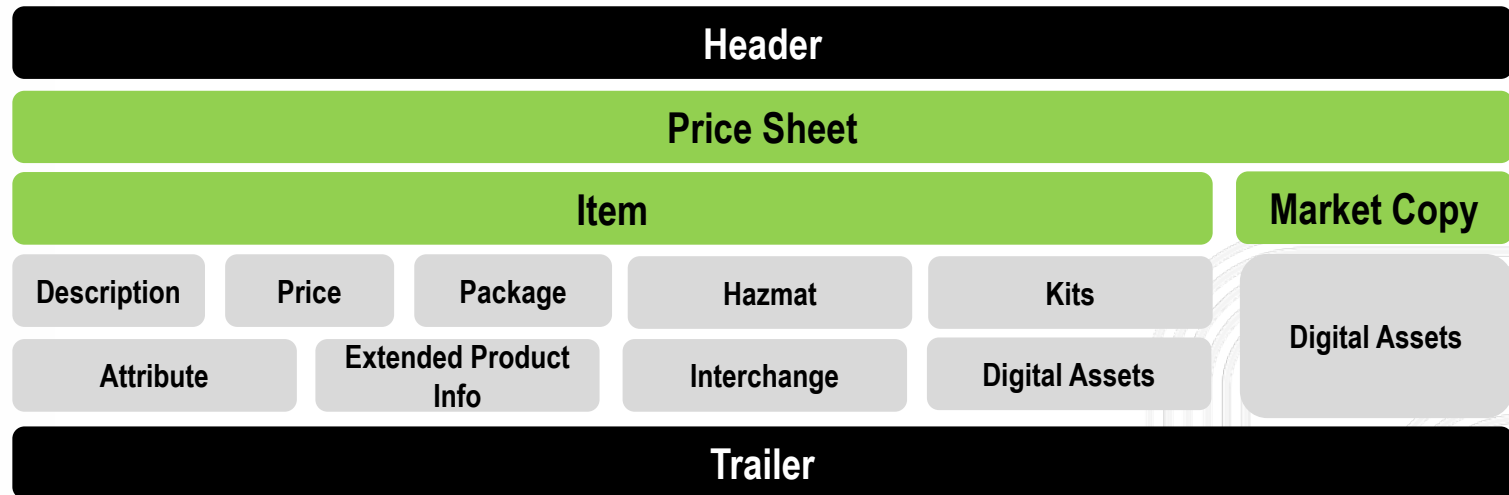
Parent Company (Code)	Brand (Code)	SubBrand (Code)
Momentum USA (BMNL)	AmeriBrakes (GQBF)	AmeriStar (GQBJ)
Momentum USA (BMNL)	AmeriBrakes (GQBF)	AmeriPro (GQBG)
Momentum USA (BMNL)	AmeriBrakes (GQBF)	AmeriPlatinum (GQBH)
Momentum USA (BMNL)	Original Exhaust (GGGM)	
Momentum USA (BMNL)	VGX (FLMK)	
Momentum USA (BMNL)	Precision Shift (FLMJ)	
Momentum USA (BMNL)	Performance Plus (FLMH)	
Momentum USA (BMNL)	Autopartsource (BQMD)	
Momentum USA (BMNL)	Air Qualitee (BMNN)	

ACES XML



```
<App action="A" id="817" ref="12646047">  
  <BaseVehicle id="1120"/> { VCdb (1993 BMW 740iI)  
    <Qual id="2341"><text>with Air Conditioning<text></Qual> { Qdb  
    <Qty>1</Qty> { Data Supplier Content  
    <PartType id="6832"/> { PCdb (Cabin Air Filter)  
    <MfrLabel>Particulate</MfrLabel> { Data Supplier Content  
    <Position id="6133"/> { PCdb (behind glove box)  
    <Part>3338</Part> { Data Supplier Content  
</App>
```


Product Information Exchange Standard (PIES)



Product Attribute Data Base (PAdb)



- Dictionary of Standardized Product Attributes
- Includes over 239,000 product attributes
- Product attributes describe form, fit, and function
- Helps address the objective differences between two similar products



Product Attribute Data Base (PAdb)



Brake Pads		
Part Terminology ID	Product Attribute ID	Product Attribute Name
1684	1	Friction Material Composition
1684	2	Friction Material Attachment
1684	3	Mounting Hardware Included
1684	4	Pad Shims Included
1684	5	FMSI Number
1684	6	Inner Pad Friction Material Thickness
1684	7	Outer Pad Friction Material Thickness
1684	8	Slotted
1684	9	Pad Wear Sensor Included
1684	10	Grade Type
1684	11	Backing Material
1684	12	Brake Lubricant Included
1684	13	Pad Quantity
1684	14	Backing Plate Color
1684	15	Pad Shim Material
1684	16	Abutment Clips Included
1684	17	Pad Wear Sensor Type
1684	18	Chamfered Edges
1684	19	Prepared For Pad Wear Sensor
1684	20	ECE-R90 Certified
1684	21	Pad Shim Color
1684	22	Adhesive Backed Pad Shim
1684	23	Friction Surface Scorched
1684	24	Outer Pad Height
1684	25	Inner Pad Height
1684	26	Outer Pad Width
1684	27	Inner Pad Width
1684	28	Outer Pad Overall Thickness
1684	29	Inner Pad Overall Thickness

Product Attribute Name	Valid Value
Friction Material Composition	Metallic
Friction Material Composition	Semi-metallic
Friction Material Composition	Carbon Fiber Ceramic
Friction Material Composition	Organic
Friction Material Composition	Ceramic

Product Attribute Name	Valid Value
Pad Wear Sensor Included	Yes
Pad Wear Sensor Included	No

Product Attribute Name	Valid Value
Pad Quantity	8
Pad Quantity	4
Pad Quantity	10
Pad Quantity	6
Pad Quantity	2



Digital Asset Best Practices



- Includes best practices for Digital Asset Delivery, Product Image Acquisition, PDF, Audio, and Video
- Over 50 digital asset types explained
- Not a standard
- Search “Digital Asset Best Practices” on Autocare.org



PIES XML



```
<PIES xmlns="http://www.autocare.org" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <TestFile>>false</TestFile>
  <Header>
    <PIESVersion>7.2</PIESVersion>
    <SubmissionType>FULL</SubmissionType>
    <BlanketEffectiveDate>2022-03-29</BlanketEffectiveDate>
    <ChangesSinceDate>2022-03-29</ChangesSinceDate>
    <ParentAAIAID>ZZZZ</ParentAAIAID>
    <CurrencyCode>USD</CurrencyCode>
    <LanguageCode>EN</LanguageCode>
    <TechnicalContact>Courtney Pedler</TechnicalContact>
    <ContactEmail>courtney@autologydata.com</ContactEmail>
    <PCdbVersionDate>2022-03-25</PCdbVersionDate>
    <PAdbVersionDate>2022-03-25</PAdbVersionDate>
  </Header>
```



PIES XML



```
<Items>
  <Item MaintenanceType="A">
    <HazardousMaterialCode>N</HazardousMaterialCode>
    <ItemLevelGTIN GTINQualifier="UP">0405386199999</ItemLevelGTIN>
    <PartNumber>ABC12345</PartNumber>
    <BrandAAIAID>ZZZZ</BrandAAIAID>
    <BrandLabel>TPMS Manufacturer</BrandLabel>
    <ACESApplications>Y</ACESApplications>
    <ItemQuantitySize UOM="EA">1</ItemQuantitySize>
    <ItemEffectiveDate>2021-09-10</ItemEffectiveDate>
    <AvailableDate>2021-09-10</AvailableDate>
    <PartTerminologyID>12036</PartTerminologyID>
```



PIES XML



<Descriptions>

<Description MaintenanceType="A" DescriptionCode="ABR" LanguageCode="EN" Sequence="1">Cabin Filter</Description>

<Description MaintenanceType="A" DescriptionCode="SHO" LanguageCode="EN" Sequence="2">Cabin Air Filter</Description>

<Description MaintenanceType="A" DescriptionCode="DES" LanguageCode="EN" Sequence="3">Activated Carbon Cabin Air Filter</Description>

<Description MaintenanceType="A" DescriptionCode="FAB" LanguageCode="EN" Sequence="4">Removes Dust and Pollen Particles Down To 3 Microns </Description>

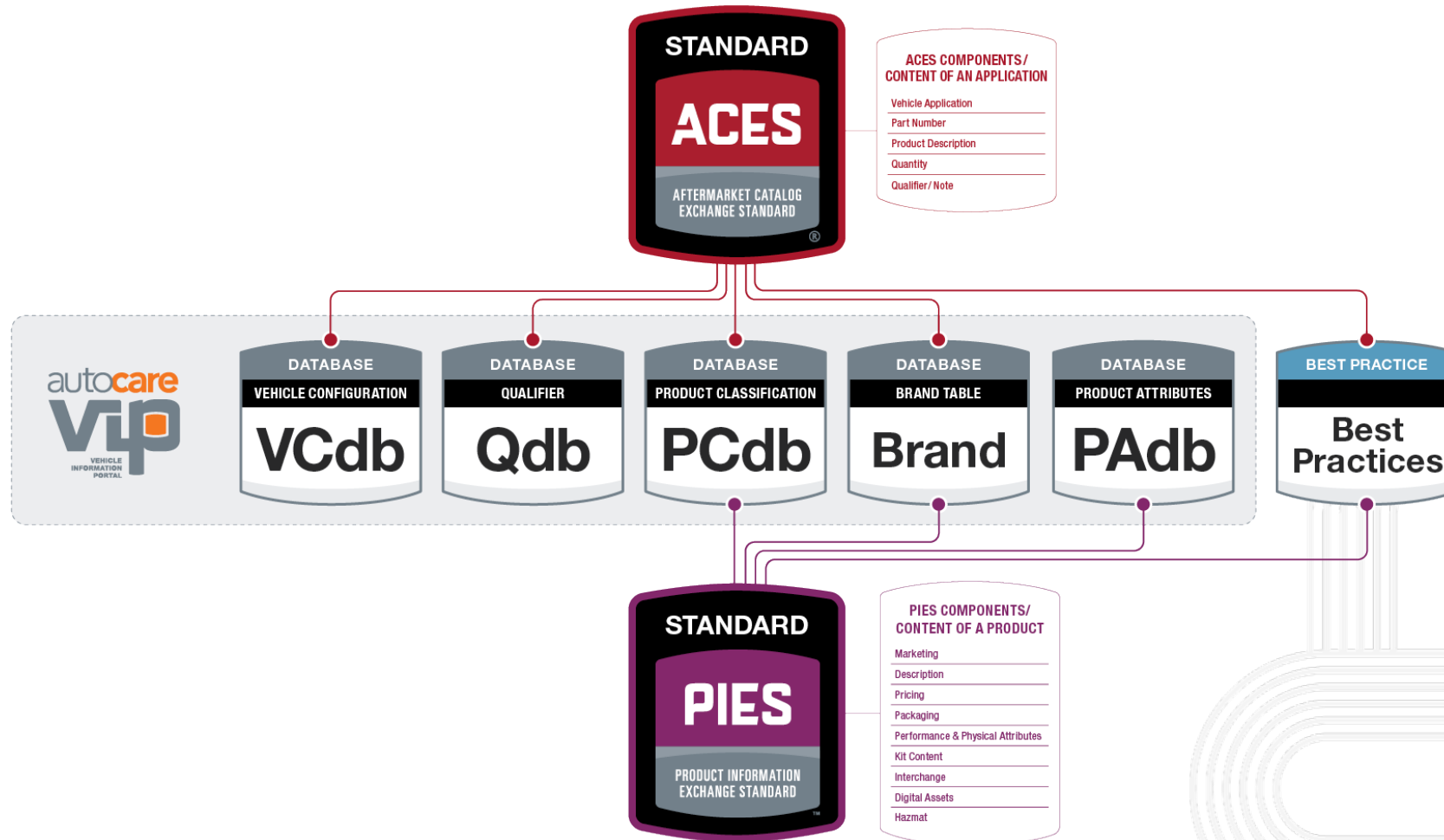
<Description MaintenanceType="A" DescriptionCode="FAB" LanguageCode="EN" Sequence="5"> Absorbs Organic Odors</Description>

<Description MaintenanceType="A" DescriptionCode="FAB" LanguageCode="EN" Sequence="6">Helps one reach the pinnacle of human existence</Description>

</Descriptions>





The Whole Picture



Telling the Story




Home > Search for 'cabin air filter' > Filters > Cabin Air Filter > MicroGard Cabin Air Filter



MicroGard Cabin Air Filter **MICROGARD**
Part # 3338 Line: MGD

★★★★★ (0) [Write a review](#) [Ask a question](#)

 Fits 1993 740iL [See Application Details](#) [Change Vehicle](#)

Select a store to see pricing & availability.

Details ▲

Product Information

Warranty: 1 Year Limited Warranty	Unit of Measure: Each
UPC: # 31447034310	Height (in): 1-5/16 Inch
Length (in): 13 Inch	Width (in): 6-1/2 Inch
Reuseable: No	Number Of Filters: 1
Filter Media: Particulate	

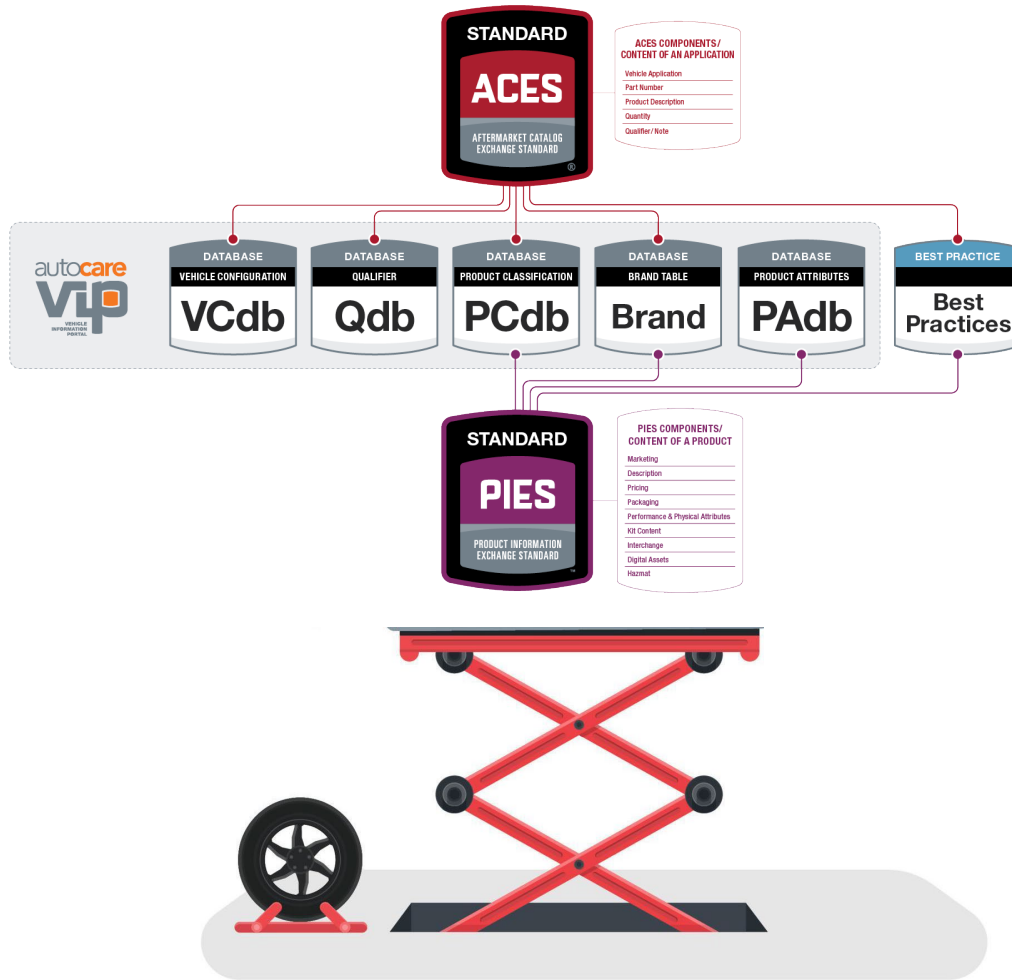
Application for Your Vehicle

Particulate Cabin Air Filter: **With Air Conditioning**
Quantity Per Vehicle: **1**



Who Manages the Data Standards?

Who Manages The Data Standards?



**Auto Care Association
(Technology Team)**

**Tech Standards
Committee (TSC)**

**Contracted
Data Researchers**

Users like YOU



1. Auto Care Technology Team



- 'Owns' and controls the ACES and PIES data standards, the supporting databases and the AutoCareVIP.com System
- Coordinates industry feedback, research, development and changes to the Data Standards and supporting databases.

1. Auto Care Technology Team



Taylor Mitchell

Senior Vice President, Technology

Taylor.Mitchell@autocare.org

Data
Standards

Emerging
Technologies

Development
& IT

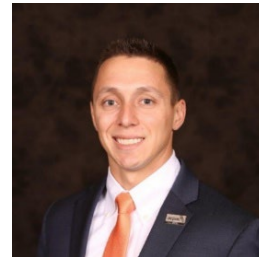
Data Standards



Jim Smith
Senior Director, Technology Standards
TSC Committee Liaison
jim.smith@autocare.org



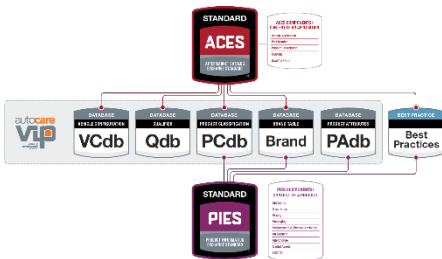
Jonathan Larsen
Reference Data Architect &
Quality Manager
FMC Committee Liaison
jonathan.larsen@autocare.org



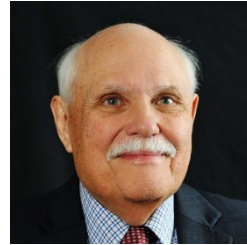
Tom Schiavo, AAP, ACP
Data Analyst
ACPN Committee Liaison
tom.schiavo@autocare.org



Milt Grimes
Lead ACES Analyst
TSC Assistant Staff Liaison
milt.grimes@autocare.org



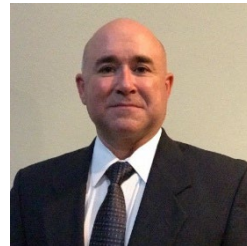
Emerging Technology



Joe Register

Vice President, Emerging Technologies

joe.register@autocare.org



Mike Tanner

Director, Vehicle Communications

mike.tanner@autocare.org



Development & IT



Frank Feng
SQL Database
Developer
frank.feng@autocare.org

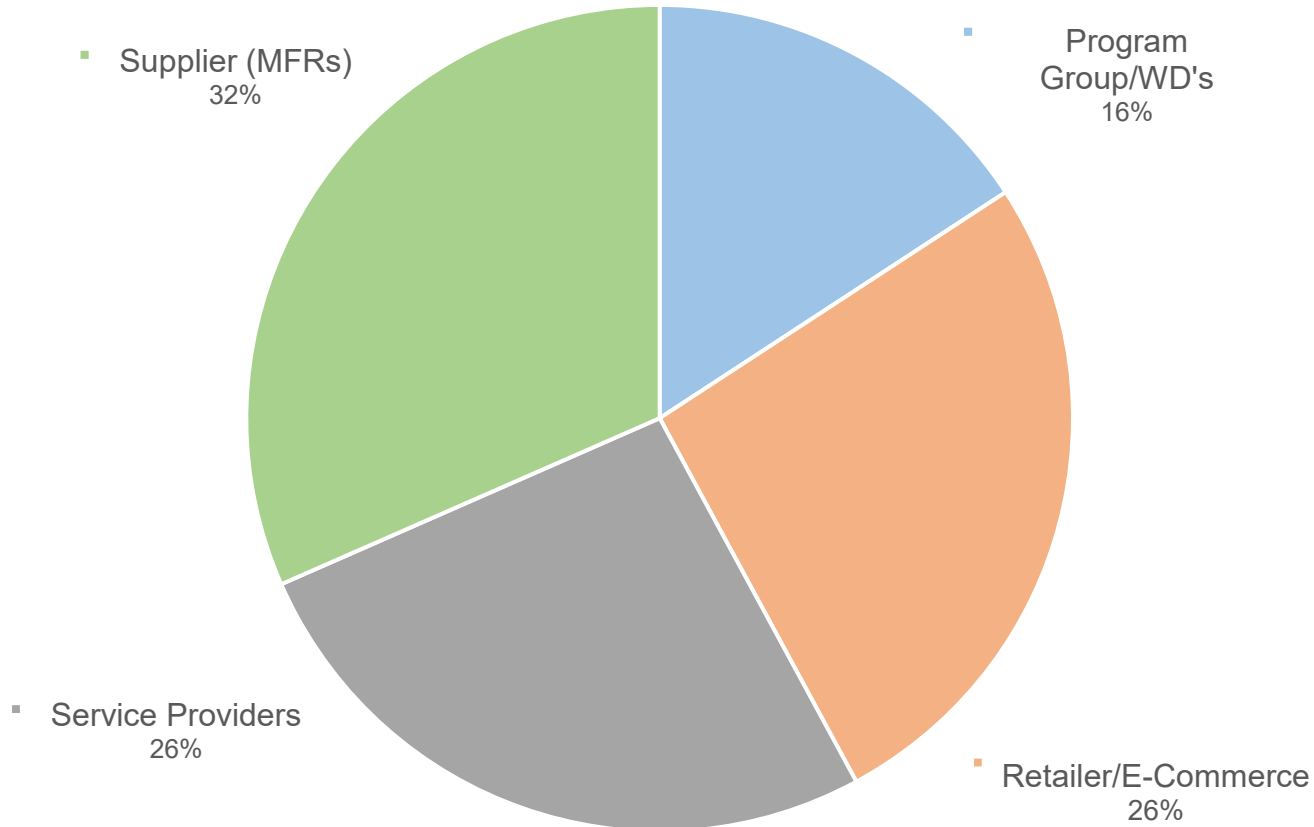


Danielle Thomas-Pollard
PMP, IT & Project Coordinator
danielle.thomas-pollard@autocare.org

2. Technology Standards Committee



TSC Breakdown



- An Auto Care Association committee, made up of 20 industry volunteers, who develop and govern industry-specific **standards and best business practices** in the area of **electronic commerce and data exchange**.
- **Objective:** Is to be responsive to member needs and effect a lower cost of doing business and increased efficiency throughout the auto care market supply chain.

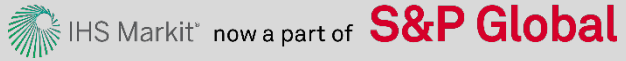
3. Contracted Data Researchers



- Contracted by the Auto Care Association
- Provide research and data to support the Data Standards supporting databases



3. Contracted Data Researchers



- VCdb - Medium/Heavy Duty (US and Canada)



- VCdb - Light Duty (US and Canada)



- VCdb - Light/Medium/Heavy/Power Sports (Mexico, Colombia, Chile, Brazil, Argentina, Ecuador, Peru and Costa Rica)



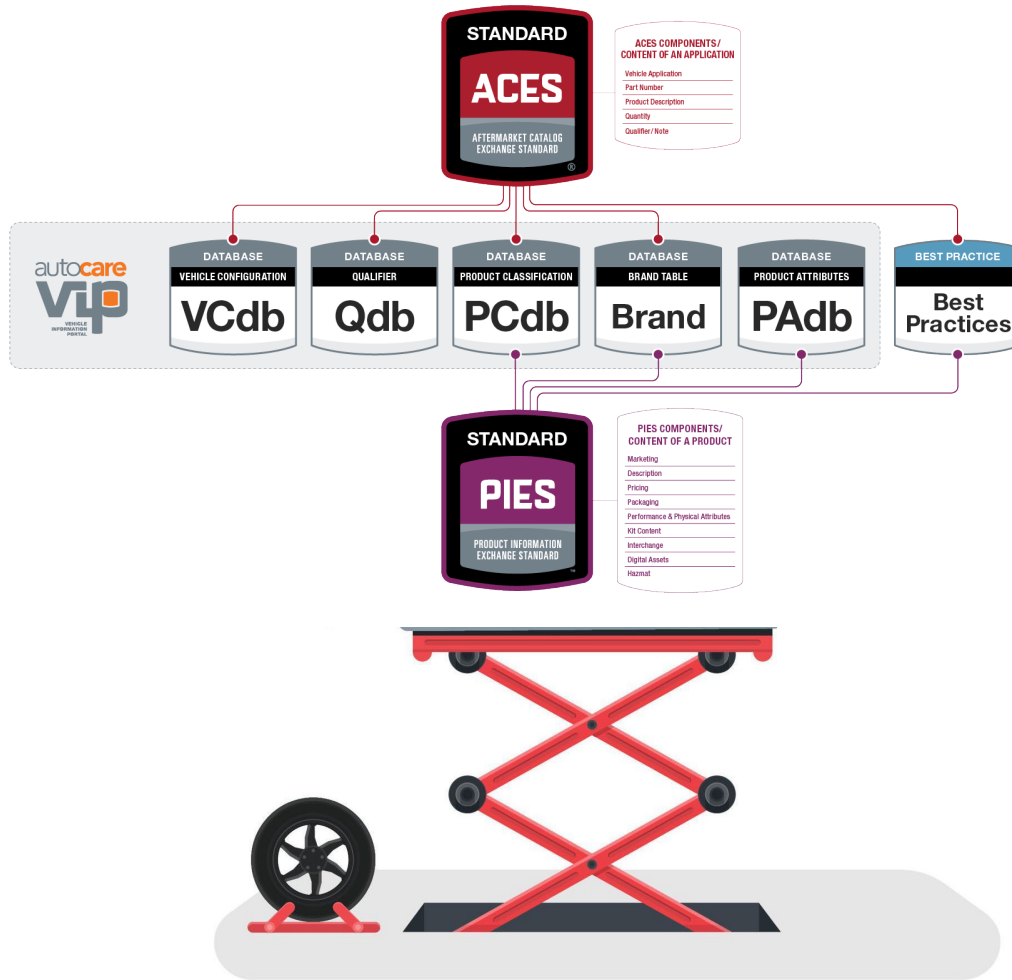
- VCdb - Power Sports (US)



- VCdb - Off-Highway & Equipment (US and Some Canada)



Who Manages The Data Standards?



**Auto Care Association
(Technology Team)**

**Tech Standards
Committee (TSC)**

**Contracted
Data Researchers**

Users like YOU



How do I make changes to the Standards?



Auto Care Vehicle Information Portal (VIP)
&
Communifire Workgroups

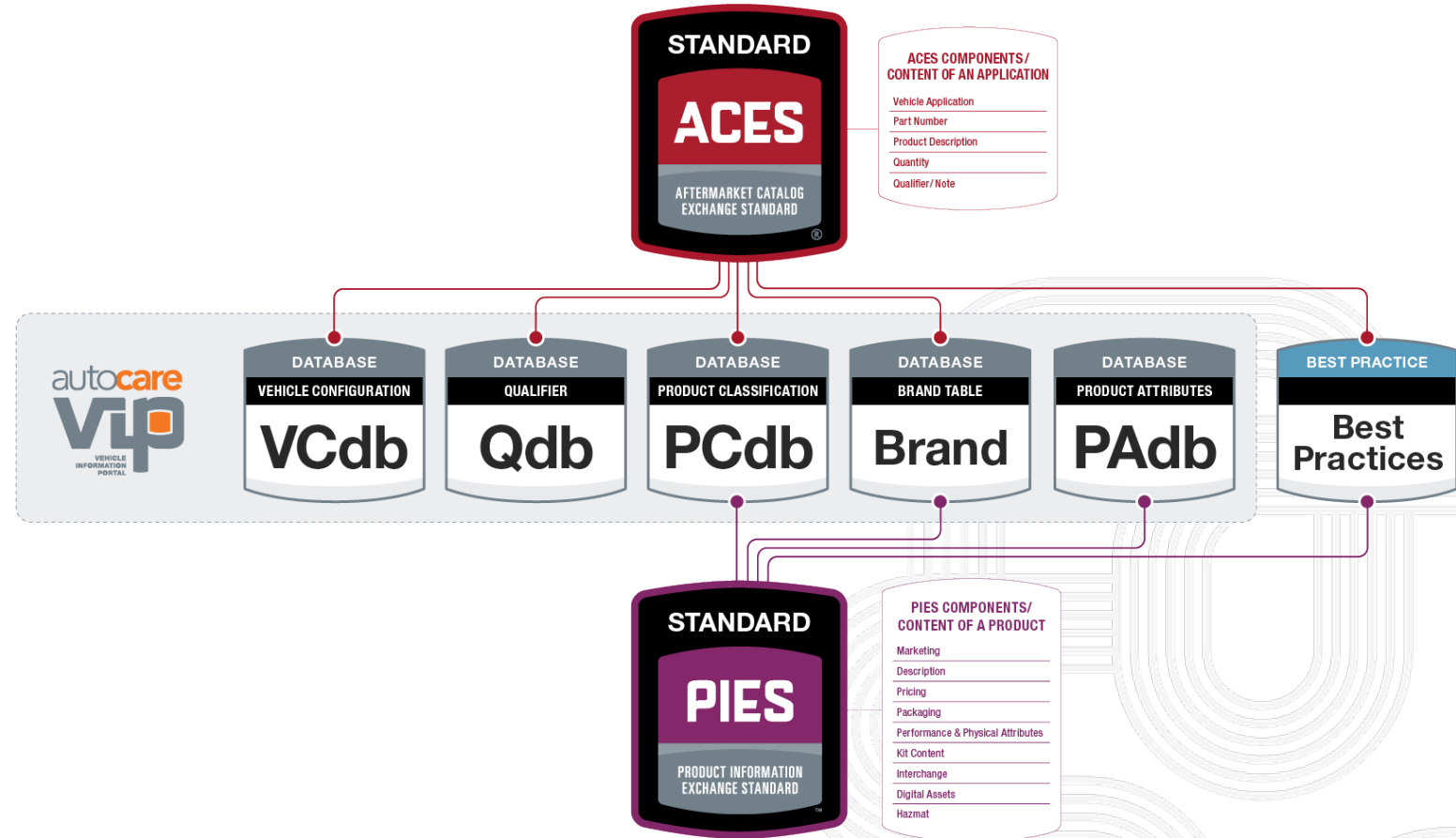
Auto Care Vehicle Information Portal

autocarevip.com



What is AutocareVIP.com?

- A platform where users can:
 - View database contents
 - Submit changes to existing records
 - Request new records
 - Download published databases
 - Access release notes



Login using your Autocare.org credentials

Login Help: technology@autocare.org



Auto Care Vehicle Information Portal

autocarevip.com



autocare VIP PCDB/PADB

Dashboard Parts Attributes Reference Data Changes Downloads Uploads Discussion Cases Contact Us

SEARCH PARTS Position Alias Category Sub category Part ID

Multiple Parts (Year Position Category Alias Use) can be separated by comma

Recent Searches

Notifications/Alerts

Page Title	Effective Date	Read Status	Message Type	Action
Release Notes - March 2022	03-25-2022	☑	Announcement	VIEW
Release Notes - February 2022	02-25-2022	☑	Announcement	VIEW
Release Notes - January 2022	01-31-2022	☑	Announcement	VIEW
Release Notes - December 2021	12-20-2021	☑	Announcement	VIEW

Recent Contact Requests

ID	Company	Subject	Message	Request Type	Submitted Date	Assigned To	Action
2382	Cox Sales	PCDB Assi...	Does my p...	PCDB Assist...	04-27-2022	jonathan.larsen@autocare.org	VIEW ▶
2381	Autozone	VCDB Assi...	Good morn...	VCDB Assist...	04-26-2022	mitt.grimes@autocare.org	VIEW ▶
2380	jian ou shi hui xin guo ji mao yi you xian gong si	Brand Assi...	I want to s...	Brand Assist...	04-26-2022	jonathan.larsen@autocare.org	VIEW ▶
2379	jian ou shi hui xin guo ji mao yi you xian gong si	Other # 2379	I want to s	Other	04-23-2022	jonathan.larsen@autocare.org	VIEW ▶

https://autocarevip.com/#

- VCDB
- PCDB/PADB
- QDB
- Brand



Auto Care Vehicle Information Portal

autocarevip.com



autocare VIP PCDB/PADB ⌵ ⚙️ 🔔 4 Thomas Schiavo (Data Analyst) ⌵

Dashboard Parts Attributes Reference Data **Changes** Downloads Uploads Discussion Cases Contact Us

Change Requests

👤 ASSIGN ✅ FINAL 🔍 PRELIMINARY 🔄 UNDER REVIEW ❌ REJECT

Page **1** of 10 ➡️ ➡️ Showing 1 - 100 of 1000 records Rows Per Page 100 ⌵

X	CR ID	Assignee	Submitted	Updated	Status	Submitter	Culture	Change Type	Change Content	Bulk Import ID
<input type="checkbox"/>	1676623		04-28-2022	04-28-2022	Submitted	paul.arena@gates.com	en-US	Add PartAttribute	Coupling Recommendatio...	⚠️ Review ▶
<input type="checkbox"/>	1676592		04-28-2022	04-28-2022	Submitted	courtney@autologyd...	en-US	Modify Part	Back Up Light Assembly / ...	Review ▶
<input type="checkbox"/>	1676591		04-28-2022	04-28-2022	Submitted	paul.arena@gates.com	en-US	Add PartAttribute	Manufacturer / Describes ...	⚠️ Review ▶
<input type="checkbox"/>	1676559		04-28-2022	04-28-2022	Submitted	kgilman@trensor.com	en-US	Add Part	A/C Temperature and Pre...	⚠️ 💬 Review ▶
<input type="checkbox"/>	1676558		04-28-2022	04-28-2022	Submitted	paul.arena@gates.com	en-US	Add PartAttribute	Cross Bar Length / Descri...	⚠️ Review ▶
<input type="checkbox"/>	1676557		04-28-2022	04-28-2022	Submitted	paul.arena@gates.com	en-US	Add PartAttribute	Application Description / ...	⚠️ Review ▶
<input type="checkbox"/>	1676552		04-28-2022	04-28-2022	Submitted	paul.arena@gates.com	en-US	Add PartAttribute	Industrial Description / De...	⚠️ Review ▶
<input type="checkbox"/>	1676550		04-28-2022	04-28-2022	Submitted	paul.arena@gates.com	en-US	Add PartAttribute	Tube Description / Descri...	⚠️ Review ▶

Auto Care Vehicle Information Portal

autocarevip.com



Tips and Tricks:

- Don't be discouraged
 - All change requests have to be reviewed
- Provide supporting content
 - Speeds up review/processing time
- Ask questions
 - Via AutoCareVIP.com --> Contact Us
 - Via Email – Technology@autocare.org

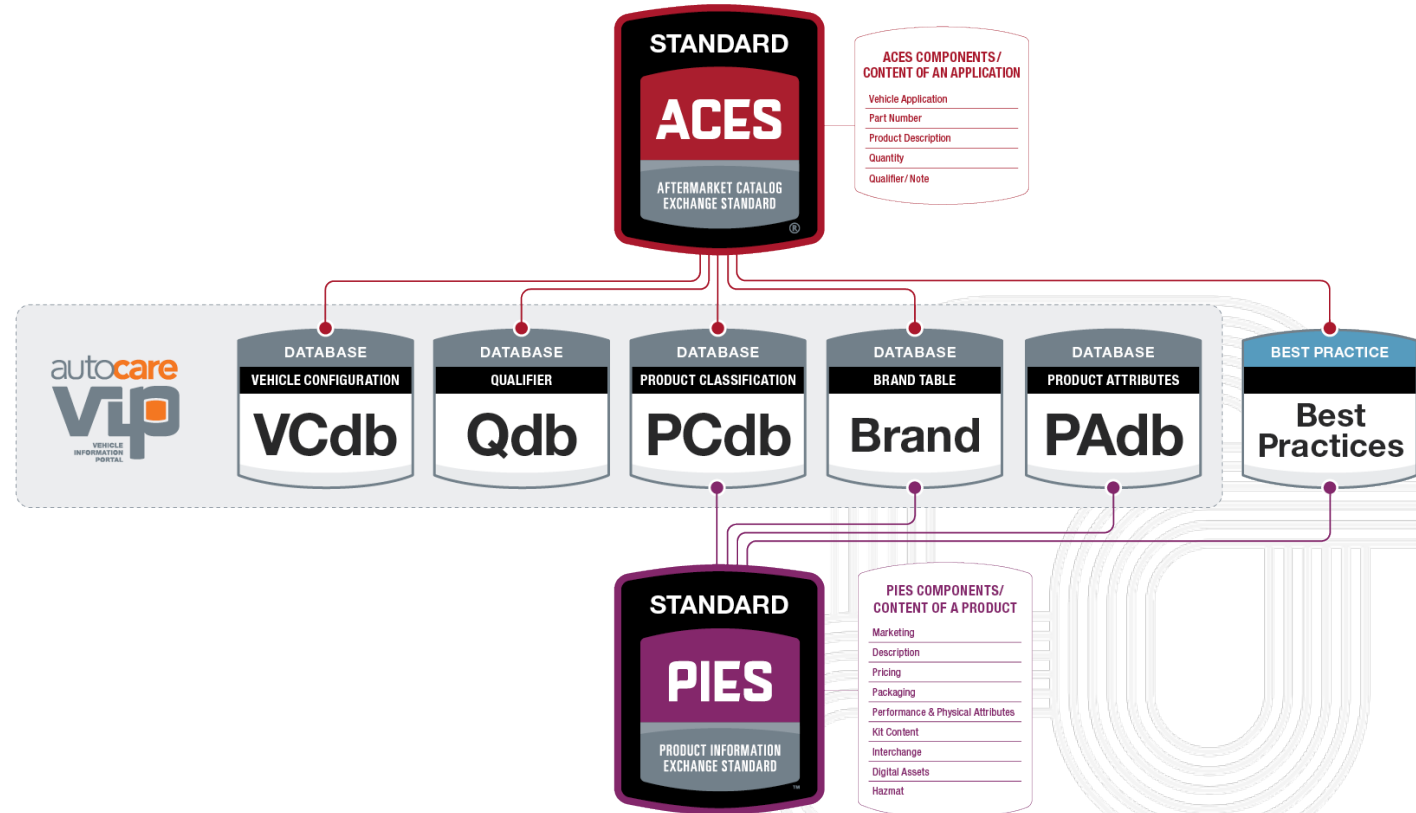
Communifire

autocare.communifire.com



What is Communifire?

- A platform where Auto Care Association members come together to discover, discuss, propose and review changes to the Data Standards through workgroups



Free to Join

Login Help: technology@autocare.org



What it contains

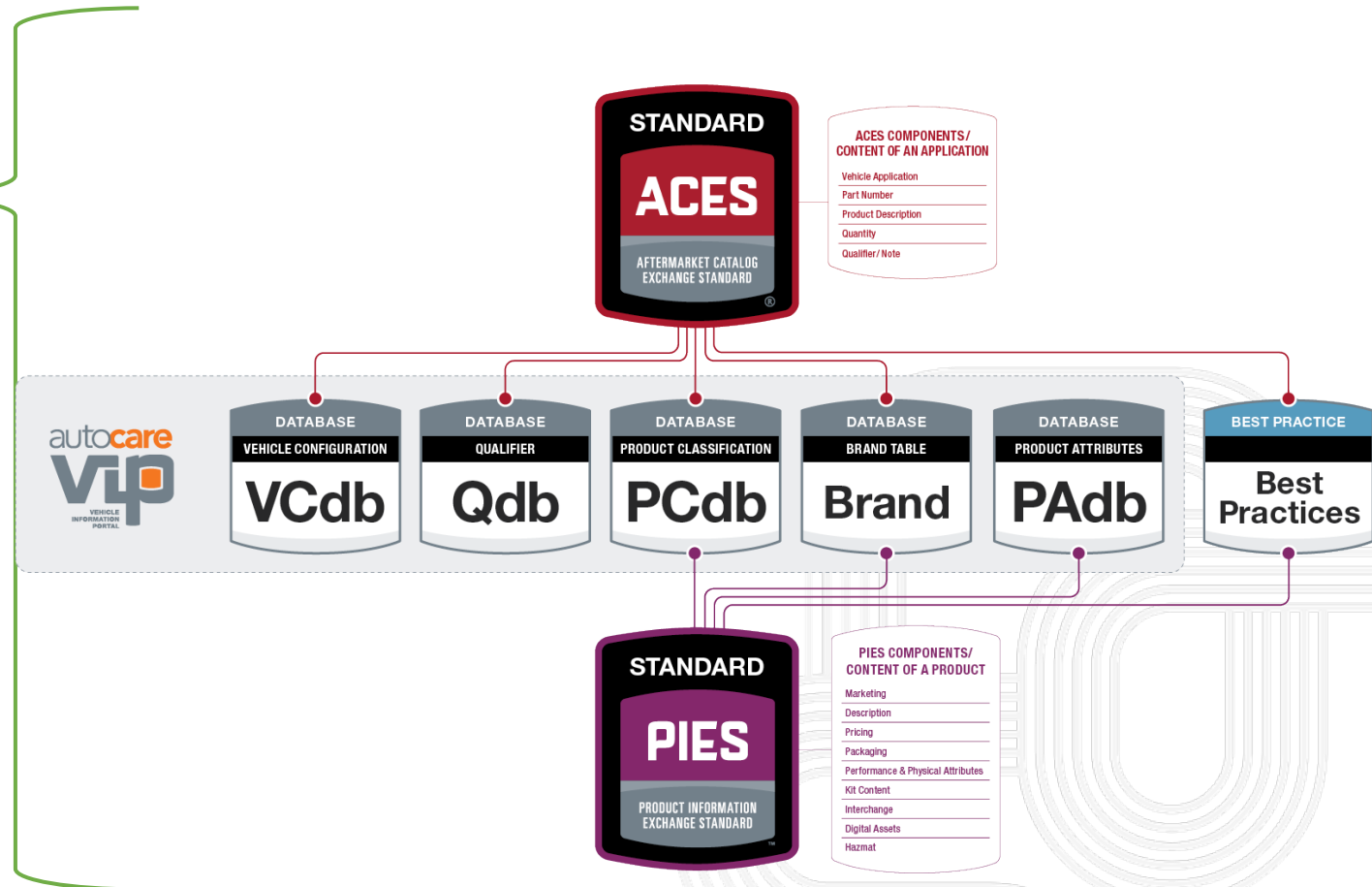
■ Workgroups





1. TSC Approved Project Workgroups
 - Big Impact Topic/Changes
2. Non-TSC Workgroups
 - Small Impact Topics/Changes

■ Discussions


■ Events

- Workgroup, Training, etc...




autocare ASSOCIATION  Search  Home Browse Create Spaces  Tom 

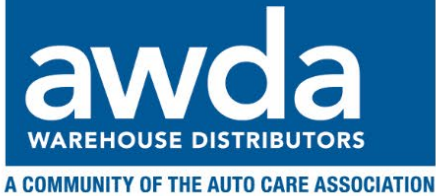
SEGMENT COMMUNITY SPACES




Automotive Content Professionals Network



FILTER MANUFACTURERS
COMMUNITY
A COMMUNITY OF THE AUTO CARE ASSOCIATION




WAREHOUSE DISTRIBUTORS
A COMMUNITY OF THE AUTO CARE ASSOCIATION




UNDER 40
A COMMUNITY OF THE AUTO CARE ASSOCIATION


COMMITTEE AND LEADERSHIP SPACES




CATEGORY MANAGEMENT COMMITTEE



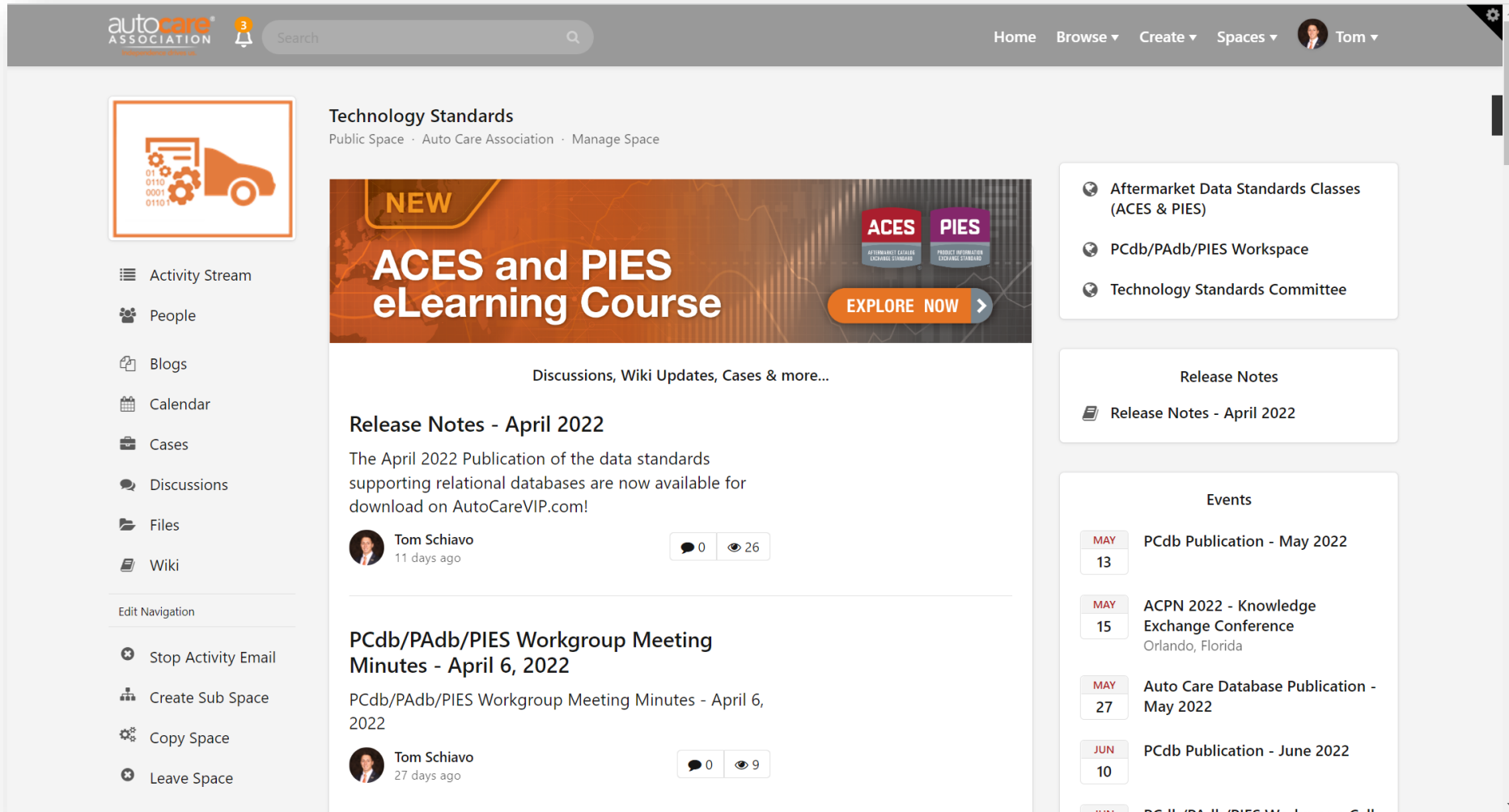
MARKETING AND COMMUNICATIONS COMMITTEE



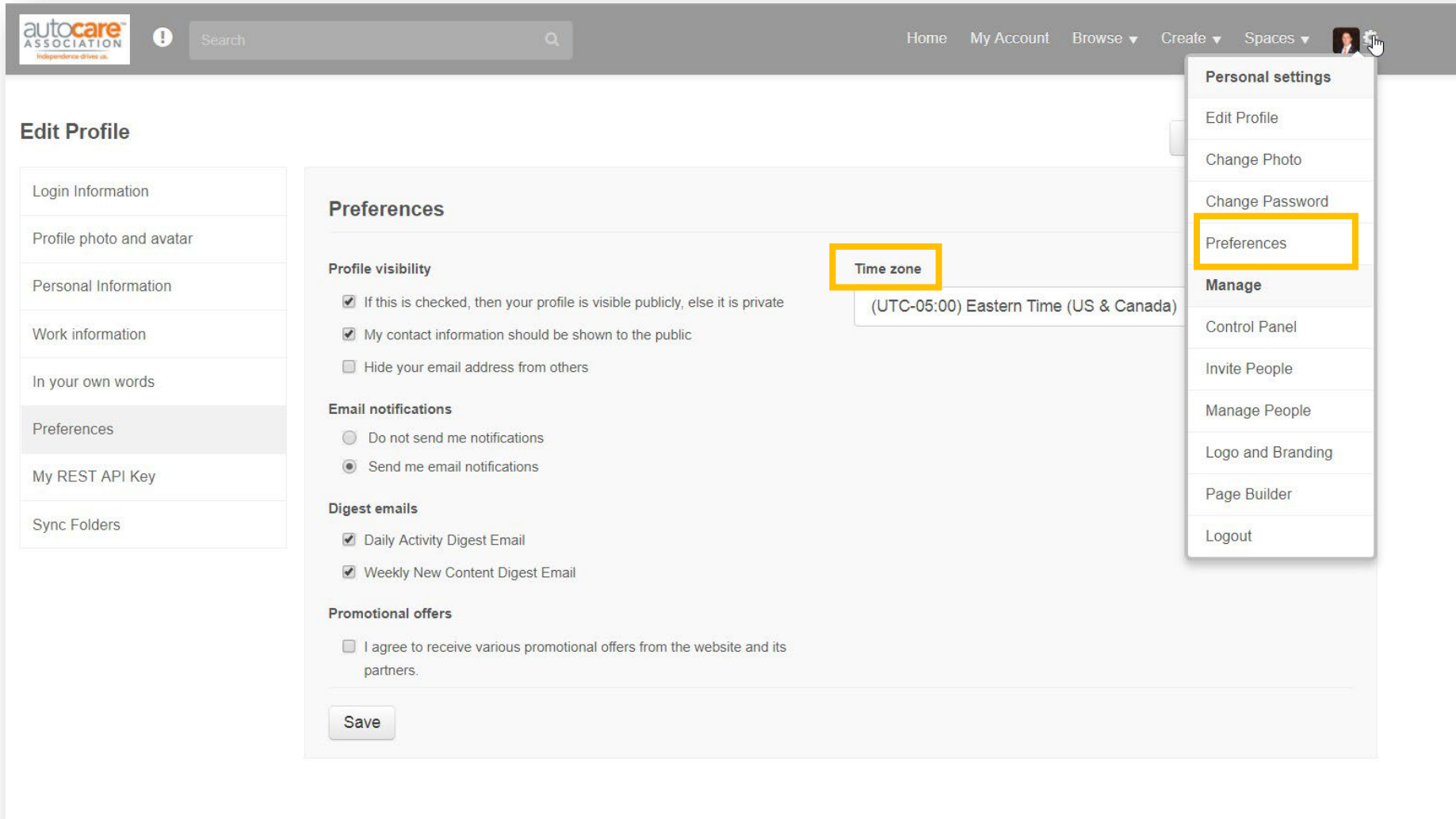
MARKET INTELLIGENCE COMMITTEE



TECHNOLOGY STANDARDS COMMITTEE



The screenshot shows the Communifire website interface. At the top, there is a navigation bar with the AutoCare Association logo, a search bar, and user options for Home, Browse, Create, Spaces, and a profile for Tom. The main content area is titled "Technology Standards" and features a prominent banner for a "NEW ACES and PIES eLearning Course" with an "EXPLORE NOW" button. Below the banner, there are sections for "Release Notes - April 2022" and "PCdb/PAdb/PIES Workgroup Meeting Minutes - April 6, 2022", both by Tom Schiavo. A right-hand sidebar contains sections for "Aftermarket Data Standards Classes (ACES & PIES)", "Release Notes", and "Events". The Events section lists several upcoming events, including "PCdb Publication - May 2022", "ACPN 2022 - Knowledge Exchange Conference", and "Auto Care Database Publication - May 2022".



autocare ASSOCIATION Independence drives us.

Home My Account Browse Create Spaces

Edit Profile

- Login Information
- Profile photo and avatar
- Personal Information
- Work information
- In your own words
- Preferences**
- My REST API Key
- Sync Folders

Preferences

Profile visibility

- If this is checked, then your profile is visible publicly, else it is private
- My contact information should be shown to the public
- Hide your email address from others

Email notifications

- Do not send me notifications
- Send me email notifications

Digest emails

- Daily Activity Digest Email
- Weekly New Content Digest Email

Promotional offers

- I agree to receive various promotional offers from the website and its partners.

Save

Time zone
(UTC-05:00) Eastern Time (US & Canada)

Personal settings

- Edit Profile
- Change Photo
- Change Password
- Preferences**
- Manage**
- Control Panel
- Invite People
- Manage People
- Logo and Branding
- Page Builder
- Logout

Data Standards Process



IHS Markit* now a part of **S&P Global**



Additional Resources



Auto Care Digital Hub

- <https://digital.autocare.org/>
- Data Rules, ER Diagrams and Documentation

AutocareVIP.com

- To submit change request to Data Standards databases
- Release Notes

Communifire (autocare.communifire.com)

- Workgroups, Discussions, Events



Additional Training



Data Standards E-Learning (Virtual)

- Introduction to ACES & PIES
- Convenient, self-paced eLearning to help you more effectively communicate with your trading partners.

101Intro

Additional Training



Northwood University Class (Dates – TBD)

- Aftermarket Data Standards (ACES and PIES)
 - More Advanced Training
 - E-Learning Course is prerequisite.

AutocareVIP.com Training (June, July, August)

- Check Communifire for Dates and Meeting Information

Monday – University Breakout Sessions



11:00am-12:00pm

- Digital Assets - The Place, The Process & The Pitfalls

2:30-3:30pm

- Free Your ACES and PIES Files From Free-Form Text
- Taming the Wild ACES File: Common Issues In ACES Files and How To Fix Them

3:45-4:45pm

- Get More Out of PIES

Q&A

