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SUPPLY CHAIN TRANSPARENCY

BOMcheck Professional Introduction

BOMcheck
Professional

Contents

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Why?
Substances of concern in products present significant foundational risks to the world and it's people.
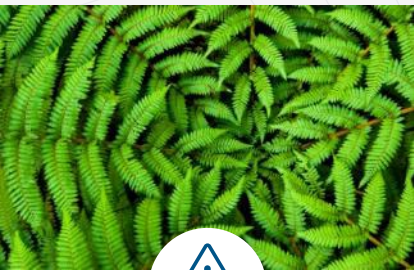
Environmental Degradation

Harm to Human Health

Reduced Recycling

Sustainable Provenance

Foundational Risks

1. Regulatory Requirements

2. Customer Expectations

3. Pressure from NGO/Stakeholders

Why?
Substances of concern in products present significant risks to business operations and continuity.

1. Regulatory Requirements

2. Customer Expectations

3. Pressure from NGO/Stakeholders

Market Access

Fines & Prosecution

Product Recall

Brand Reputation

Business Risks

Challenges with Supply Chain Substance Compliance

1. Global Substance Regulations

Regulatory Scope & Scale

Increasing Complexity

Ongoing Amendments

Challenges with Supply Chain Substance Compliance

1. Global Substance Regulations

Americas
- TSCA
- Proposition 65
- Canadian Environmental Protection Act
- Consumer Product Safety Improvement Act
- Canada Consumer Product Safety Act
- Various State PFAS laws
- Chemical Risk Reduction Ordinance

EMEA
- PFAS
- EU RoHS
- EU RoHS 2 amendments
- EU POPs Regulation
- Ozone Depleting Substances (ODS)
- EU REACH Restrictions Annex XVII
- EU REACH Candidate List (SVHC)
- PFAS
- UK REACH
- UK RoHS
- SCIP
- EU MDR (CMR 1A & 1B & ED substances)
- Battery regulation
- Packaging Regulation
- Fight Against Waste and the

APAC
- China RoHS
- Korea RoHS
- Japan RoHS
- Taiwan RoHS
- Stockholm Convention

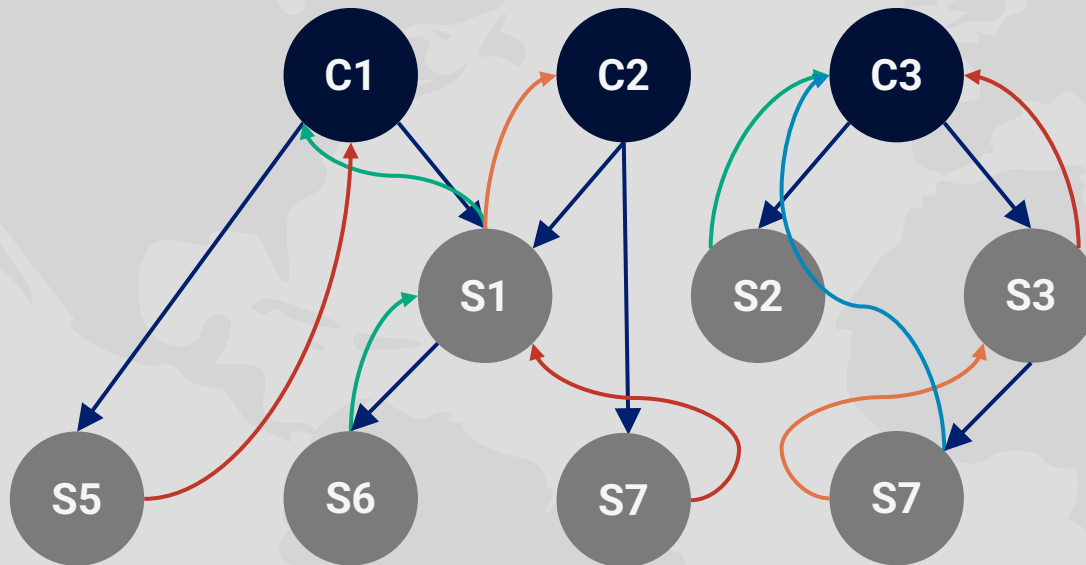**Challenges** with Supply Chain Substance Compliance

2. Supply Chain Management

Oversight & Transparency

Data Collection & Accuracy

Onward Data Management

Challenges with Supply Chain Substance Compliance

2. Supply Chain Management

Without a centralized platform?

1. Complex networking & communication

2. Inefficient data collection processes

3. Low data accuracy & quality assurances

4. New or updated regs? data invalid!

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Centralized and Automatable Supply-Chain Substance Compliance

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BOMcheck Supply Chain Substance Compliance Platform

Part Compliance Database

Largest library of existing part substance compliance declarations with over 13 million declarations for over 26 million individual parts across multiple industries worldwide.

Many of your suppliers and the parts you purchase from them are likely already on BOMcheck.

Screened Regulatory Content

Industry-led Substance List Working Group (#SubCo) and Sphera Regulatory Content domain experts continuously research, screen and incorporate substance list content into the BOMcheck Platform.

Provides a wide regulatory coverage which is pre-screened to reduce the burden on suppliers.

Supply Chain Management

Biggest multi-tenant multi tier network for supply chain substance compliance, delivering quicker time to data, easily scalable, and providing full visibility to the source.

Easily find your suppliers and reduce supplier questionnaire fatigue through reuse of data.

BOM Assembly Intelligence

Start with your BOM parts lists in the Assembly Tool, roll-up existing part declarations and run outreach campaigns to calculate compliance for your complex object products.

BOMcheck continually checks for new supplier declarations and re-calculates compliance in real time.

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Solutions for Supply Chain Substance Compliance

1. Global Substance Regulations

Regulatory coverage for all major substance
compliance laws and regulations around the world.

Substance pre-screening
Removal of substances not found in Articles

In-tool screening
Reduced disclosure overhead with BOMcheck Screen

In-tool industry and product scoping
Reduced disclosure overhead with scope questions

Guidance & support
Ongoing help and guidance for suppliers

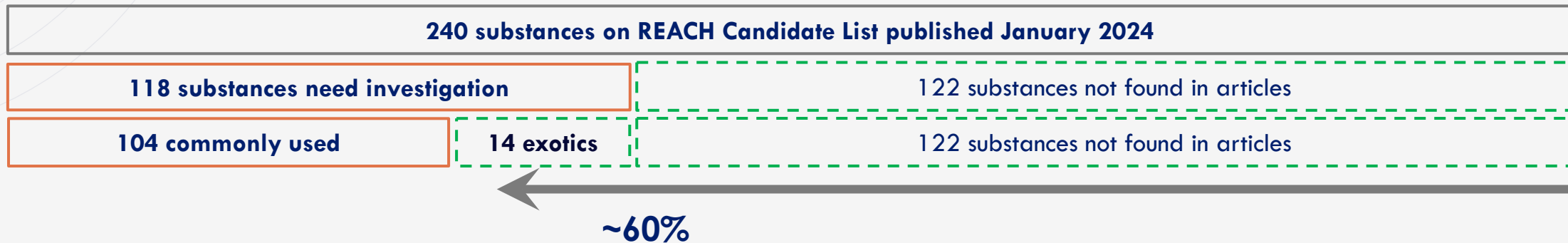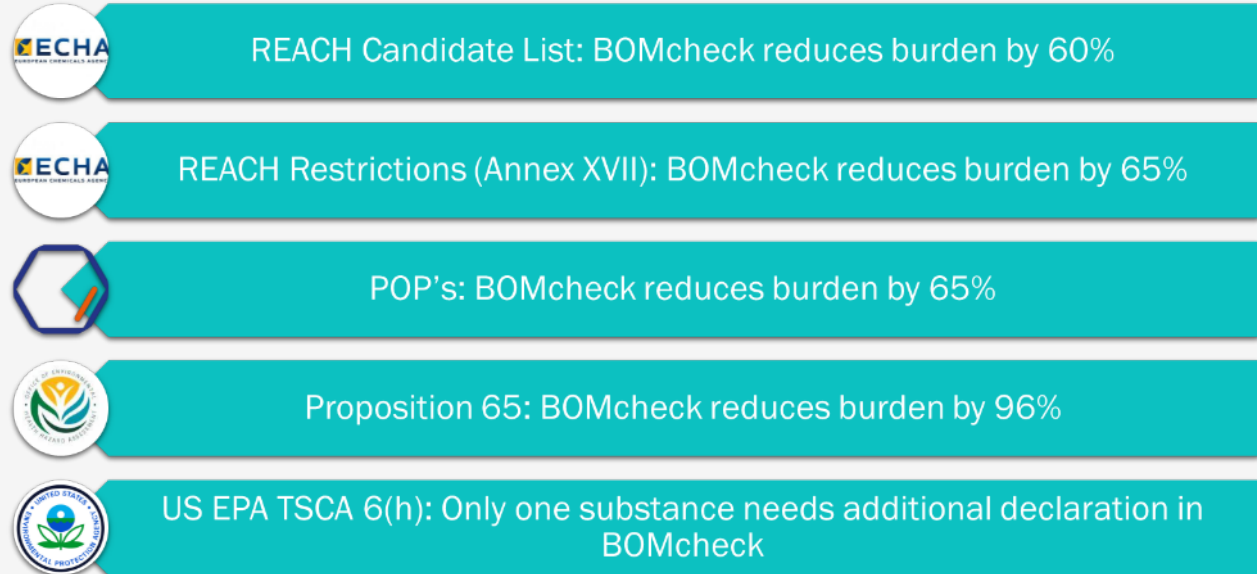| REACH ✓ | RoHS ✓ |
Prop 65 ✓	Batteries ✓
Packaging ✓	EU/MDR ✓
POPs ✓	TSCA ✓
SCIP ✓	PFAS ✓
Local Regs ✓	+more! ✓

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BOMcheck Substance screening and guidance

✓≡ Screened Regulatory Content

Rely on up-to-date concise chemicals guidance in the declaration tools to reduce supplier time and effort

- Increase data accuracy

- BOMcheck automatically updates the compliance status of declarations for screened substances

- Example SVHC Screening below reduces REACH compliance burden by 60%

ECHA	REACH Candidate List: BOMcheck reduces burden by 60%
ECHA	REACH Restrictions (Annex XVII): BOMcheck reduces burden by 65%
	POP's: BOMcheck reduces burden by 65%
	Proposition 65: BOMcheck reduces burden by 96%
	US EPA TSCA 6(h): Only one substance needs additional declaration in BOMcheck

240 substances on REACH Candidate List published January 2024

118 substances need investigation	122 substances not found in articles

104 commonly used	**14 exotics**	122 substances not found in articles

~60%

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Solutions for Supply Chain Substance Compliance
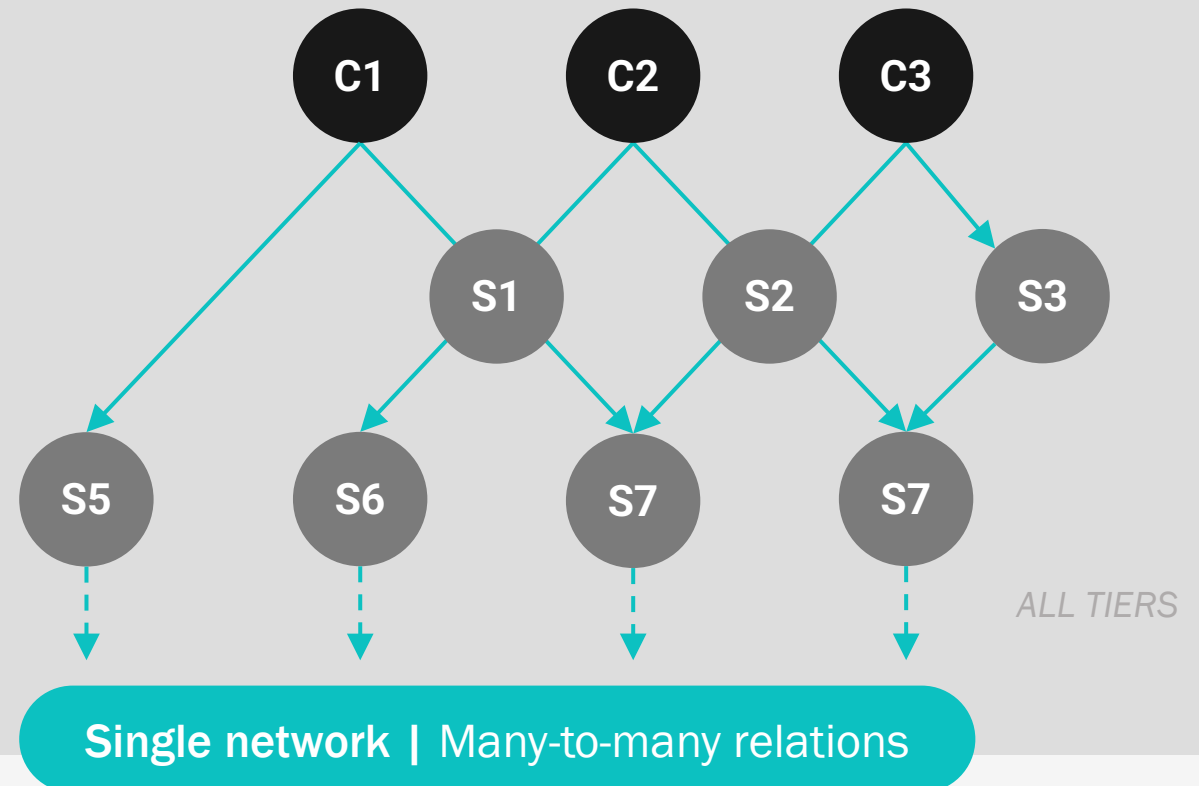
2. Supply Chain Management

Centralized supply chain tools
- Find and invite suppliers
- Standardized part declarations with publication settings reduce survey fatigue – disclose once!
- Requests/campaign and monitoring tools
- Cascade requests down supply chain

Standards compliant tooling, export types and integrations (IPC 1752, IEC 62474, XML, CSV, PDF)

API and third-party integrations with Siemens Teamcenter, Dassault Systèmes, SAP and more

Discover, Map & Assess Entire Supply Chain

ALL TIERS

Single network | Many-to-many relations

Solutions for Supply Chain Substance Compliance

Discover Suppliers & Collect Data

Expert-built assessments collect data across ESG topics and supply chain tiers

Manage risk and report

Actionable insights to manage risk, legal requirements, reporting and commitments

Engage suppliers and track progress

Supplier collaboration and action plans, audits, tracking performance over time

Integrate across your business

APIs for existing systems and processes, e.g. ERP, PLM, Procure-to-Pay

Drive Impact

Continuous data to track, improve, and report on goals and regulatory requirements

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Dynamic BOM Management

Dynamic BOM Management

1. Upload Product
Manufacturing BOM
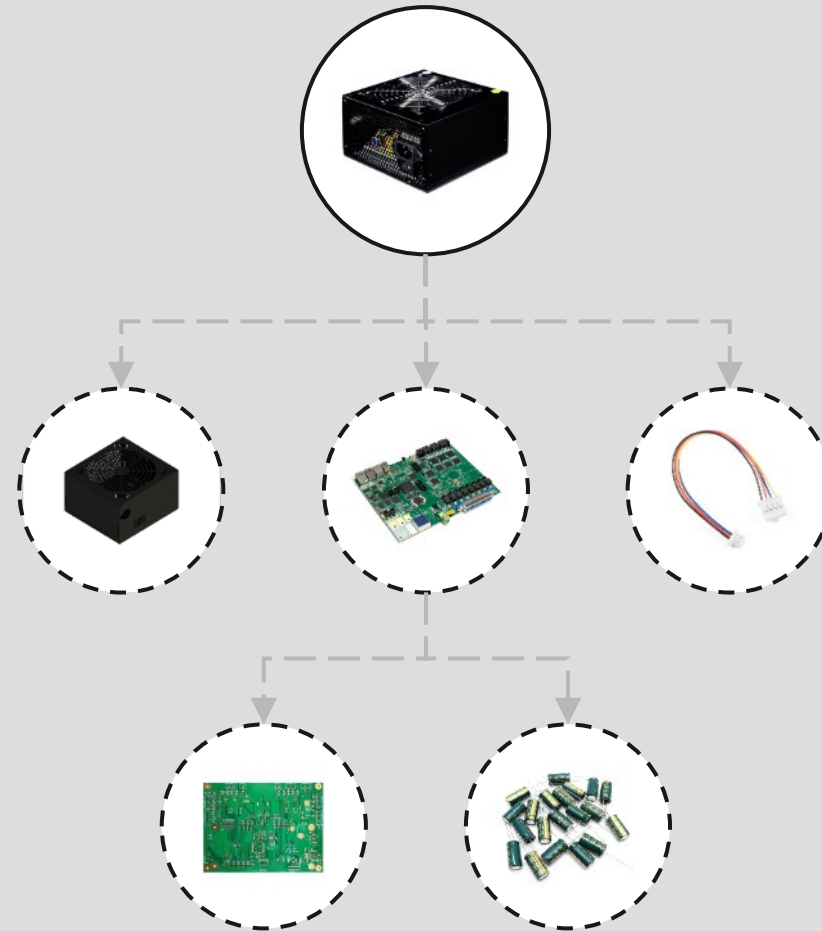
Dynamic BOM Management

2. Match Existing Parts
from BOMcheck DB

Dynamic BOM Management

3. Supplier Outreach to Collect Outstanding
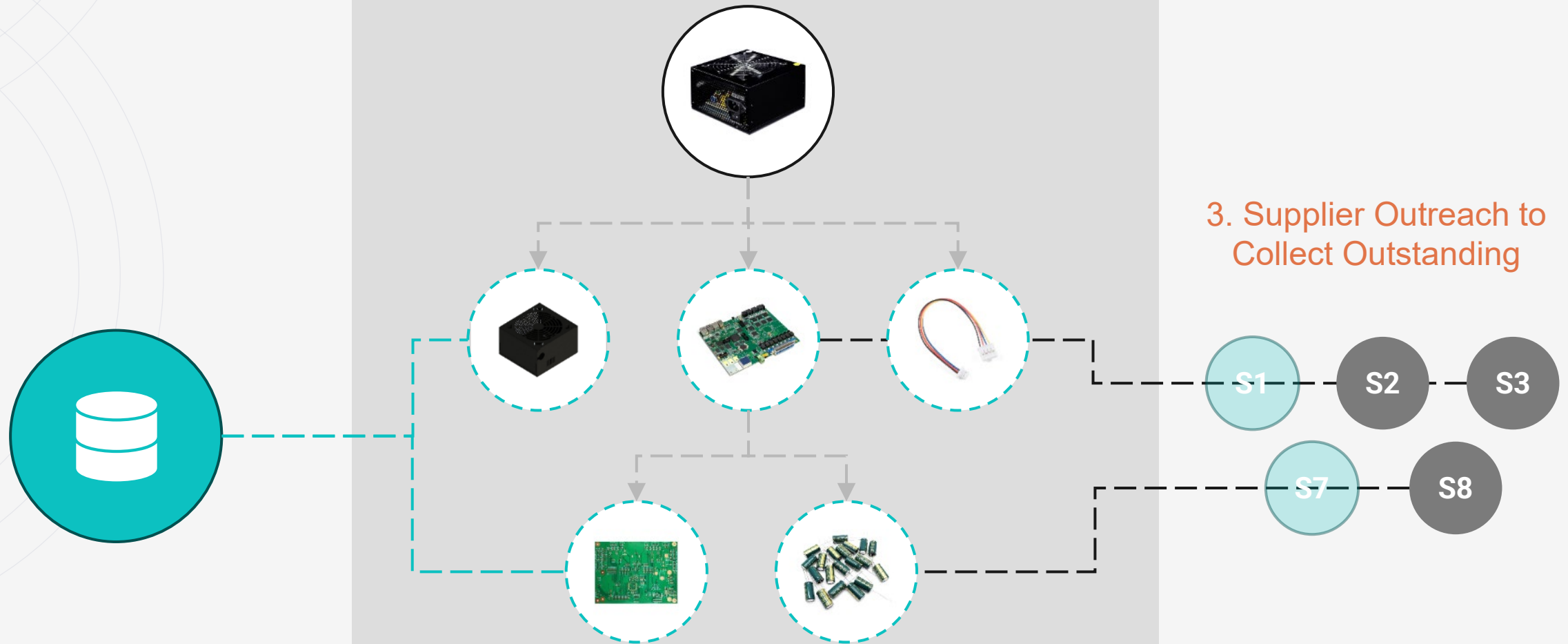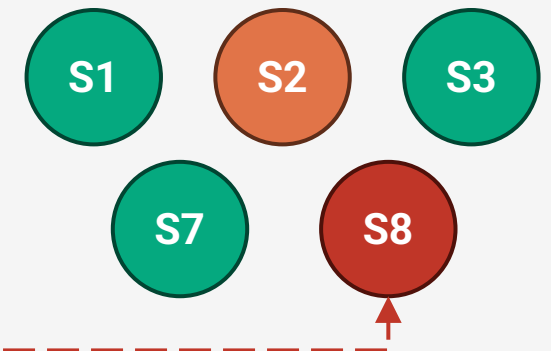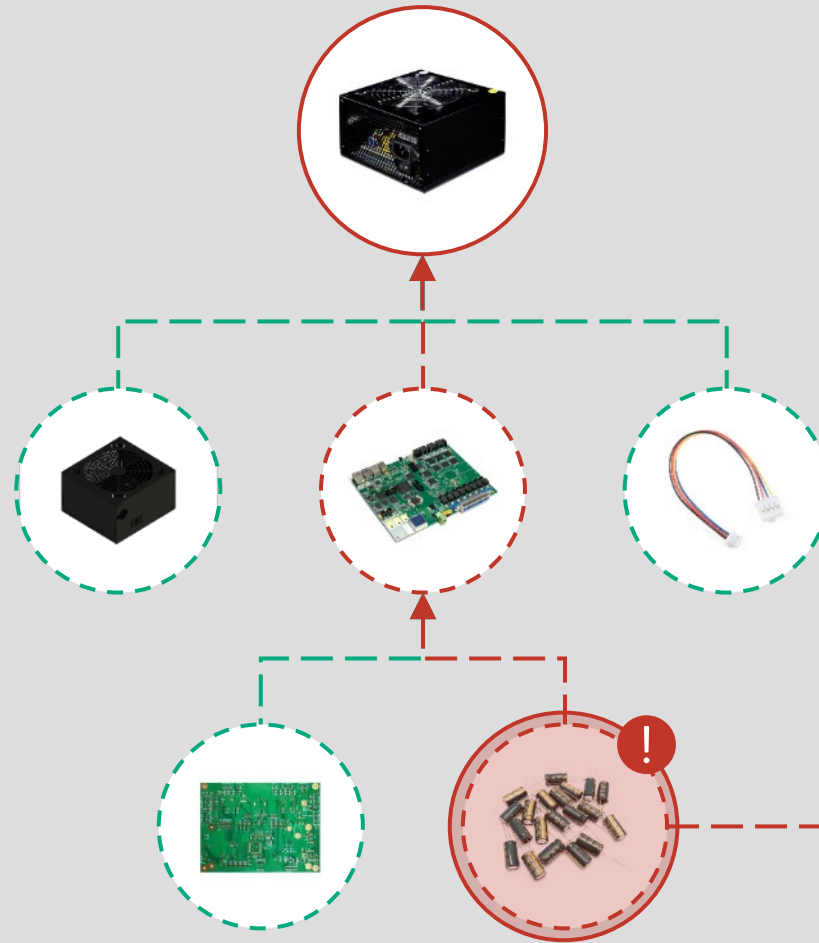
Dynamic BOM Management

4. Roll-up Assembly
Compliance Status

S1   S2   S3

S7   S8
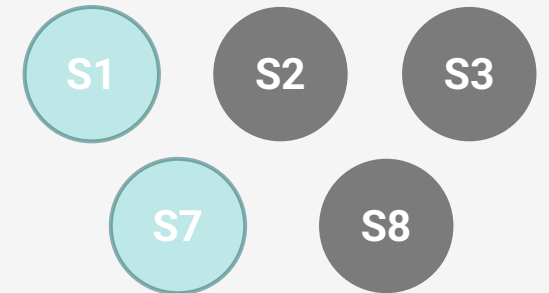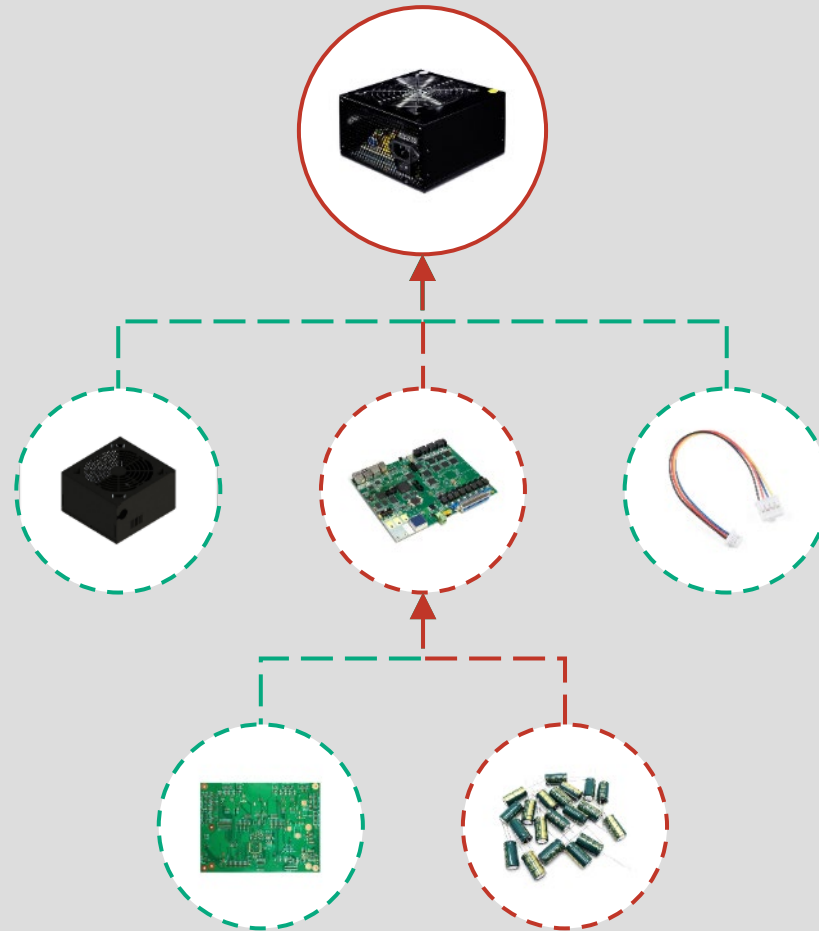
Dynamic BOM Management

6. Identify Non-Compliant Parts & Suppliers

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Supplier Support & Facilitation

Supplier Support & Facilitation Functionality

RCD Tool
- Reg. Compliance Declaration
- Make & update declarations for millions of parts
- DSL guidance & screening
- Attach evidence & files

FMD Tool
- Full Materials Declaration
- Intelligent article breakdown auto-generates RCDs
- RCDs updated for DSL amendments as they happen

Bi-annual Updates
- Stay up to date with new regulated substances
- Uses/applications of new substances identified to help with supplier declarations

Material Risk DB
- Search substance info for specific materials class and material groups
- Identify substance DSL listings and reg requirements

Mapping Tool
- Full self serve documentation & guidance site
- Localized to 5 key territories
- Substance screening
- SubCo & SteerCo focus groups

Guidance & Support
- Full self serve documentation & guidance site
- Localized to 5 key territories
- Substance screening
- SubCo & SteerCo focus groups

Dedicated admin support for suppliers
A dedicated mailbox helps to provide BOMcheck user account, onboarding and payment queries

24/7 SCN Support with live chat
BOMcheck's premium support allows you and your suppliers to raise tickets for any technical and regulatory guidance

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Supplier Support & Facilitation Webinars

Q1 BOMcheck Release: ~Jan/Feb
(Release aligned guidance webinar)

Q2 Supplier Support: ~April/May
(General onboarding and guidance webinar)

Q3 BOMcheck Release: ~June/July
(Release aligned guidance webinar)

Q4 Supplier Support: ~Oct/Nov
(General onboarding and guidance webinar)

Q1/Q3 Release Webinars
Pre-recorded, release aligned (substance addition overview and examples), hosted on docs site release page, no Q&A.

Q2/Q4 Onboard Webinars
Live Zoom events (registration required), general overview of BOMcheck tools & features, Q&A session, hosted on docs.

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PFAS Compliance
Scope & Scale Solution

PFAS Challenges of Scope & Scale

Global PFAS Regulations

⌄

EU REACH Restriction (Annex XVII) = **10,000+**
TSCA Section 8(a)(7) = **1,462**
REACH Firefighting Foams = **10,000+**
UK REACH = **Complex Definition**
Canada CEPA Schedule 1 = **10,000+**
Maine Public Law 2021 = **Broad Definition**
Minnesota PFAS Ban = **Broad Definition**
Many other US States
Many other EU Member States
…

SCOPE

&

SCALE

Definition vs CAS lists
US/EU definition differ
RoHS = 10 substances
REACH = >300
PFAS = >14,000
Overwhelm suppliers?
Change management
& pragmatism needed

Response Rates

&

Data Quality

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PFAS BOMcheck Regulatory Content Curation

1. Industry Alignment

IEC Authority PFAS List

IEC Authority PFAS List

Electronics Industry
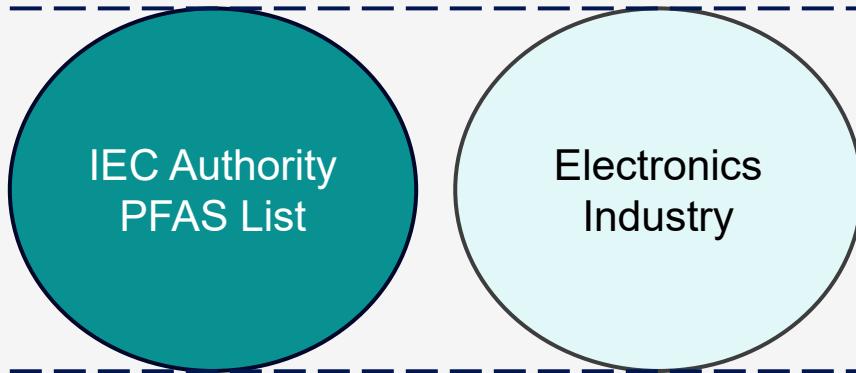
IEC 62474 provides requirements for material declarations for the electronics industry

PFAS substance group added standard in 2023 and contains 629 substances applicable to electronics

Sphera's Imogen Wild is UK country expert appointed to IEC standard as are BOMcheck #SubCo members
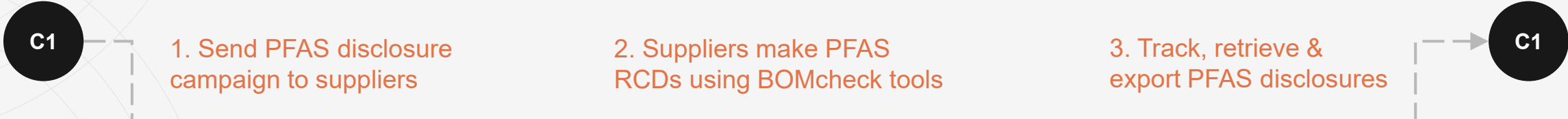
2. Regulatory Coverage

BOMcheck PFAS List

EU PFAS Restriction

TSCA PFAS Reporting

Canada CEPA Schedule 1

Main PFAS Reporting

Minnesota PFAS Ban

EU Belgium Packaging

Other US & EU States
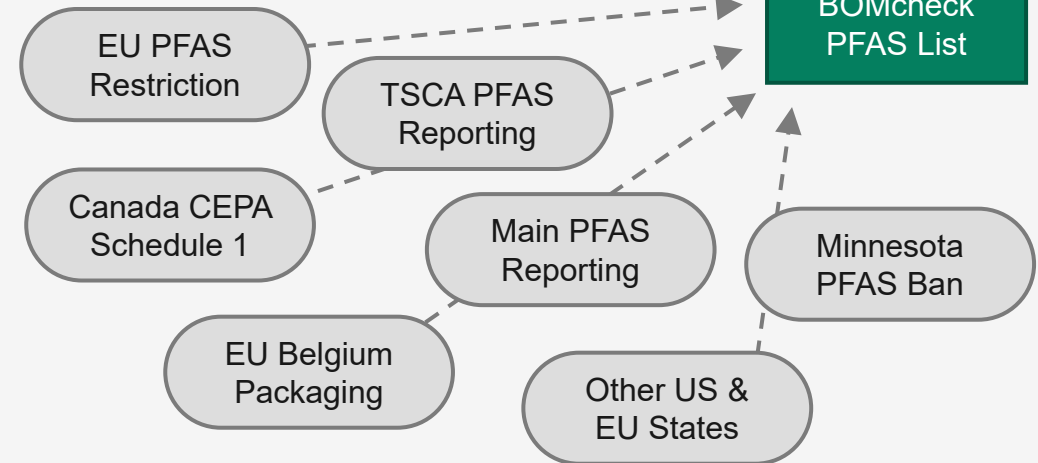
List Curation

BOMcheck PFAS Regulatory Tracker feeds into SubCo/SteerCo. Procure CAS based PFAS lists for emerging regulations

GAP, occurrence and screening assessments:
- Add ~15 commonly occurring PFAS substances per version release (BOMcheck parts DB assessment)
- Screen out substances not found in articles
- Remove substances already in BOMcheck (optional)

PFAS BOMcheck Platform Facilitation

C1

1. Send PFAS disclosure campaign to suppliers

2. Suppliers make PFAS RCDs using BOMcheck tools

3. Track, retrieve & export PFAS disclosures
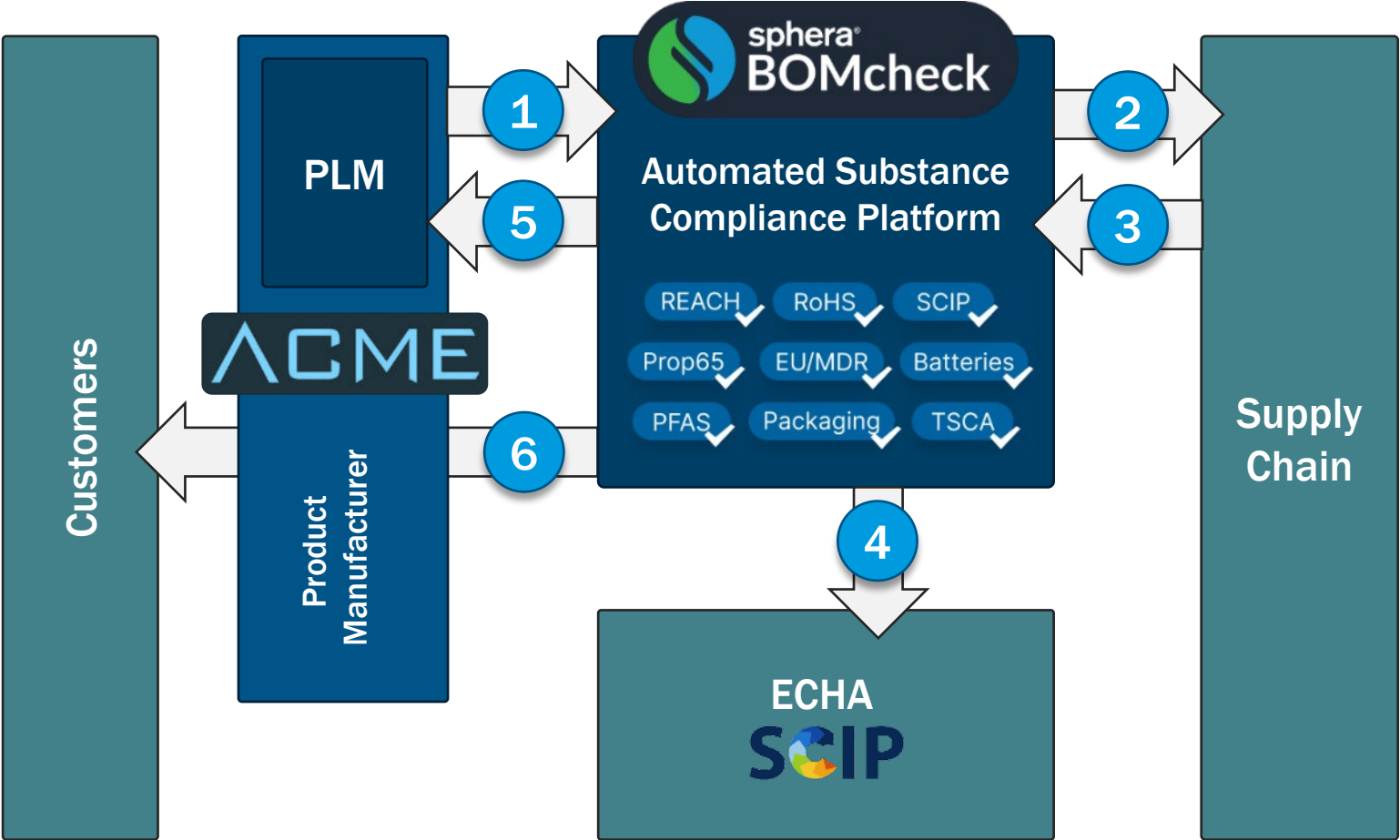
C1

Sn

Scope & Scale Facilitation

Suppliers can use BOMcheck's RCD *CAS Checker* to run PFAS disclosure automation and reduce survey overhead to a few clicks!

Add-on Modules

Platform API,
SCIP Connect,
SSO & more…

Automated Substance Compliance Process

1	Manual (UI) or programmatic (API) launch invitations and supplier declaration request campaigns
2	Invitation and part declaration requests sent to suppliers with supply-chain cascade to reach OG supplier
3	Suppliers make or send declarations into compliance platform via manual (UI) or programmatic (API) upload
4	Any product assemblies which contain parts with an SVHC are automatically sent to ECHA SCIP database via S2S
5	All compliance data from parts and assemblies available manually (UI) with analytics or programmatically (API)
6	Compliance data made available securely for customers with IP confidentiality preserved (UI & API)

Available & Future Functionality

There are three main features, plus supporting data which users may interact with via the Platform API:

1. **Submit Supplier Requests:** Launch Send Requests to Suppliers campaigns to collect compliance data from suppliers as per the BOMcheck [Supply Chain Tools](#) (via XML Upload).

2. **Submit Compliance Declarations:** Create RCDs and FMDs in the platform against the supported Declarable Substance Lists as per the BOMcheck [Declaration Tools](#) (via XML Upload).

3. **Download Declarations:** Download and consume supplier compliance declarations (RCDs and FMDs) as per the BOMcheck [Retrieve Data Tools](#) (via XML Download).

& **Download Integration Data:** Download a range of integration data including supported BOMcheck Substance and Exemption Lists, Lists of Suppliers, DUNs/CAS numbers etc. (via XML Download).

BOMcheck Platform API

Scope Roadmap Phase Targets

	Submit/Request (Supplier Campaigns)	Submit/Declare (Upload Declarations)	Download (Consume Declarations)	Integrate (Platform Data)
Phase 1 (2023/Q4)	1752A Class C/D	-	-	Primary Substance & Exemption Lists
Phase 2 (2024/Q2)	-	-	1752A/B Class C/D	CAS Numbers & Supplier DUNs
Phase 3 (2024/Q4)	-	1752A/B Class C/D	-	Additional Substance Lists
Phase 4 (2025/Q2)	IPC JSON Standard Addition			

Subject to change without notice

Challenge 3: SCIP Compliance Obligations

How do OEMs identify where SVHCs occur within their product articles, across complex supply chains and ensure this data is submitted to SCIP correctly?

- What?
    - ECHA SCIP = Substances of Concern in Products
    - From Jan 2021, companies in EU must report info to the SCIP database for articles/complex objects (components/products) supplied in a MS that contain SVHC above 0.1% w/w per article
    - SVHC = Substance of Very High Concern listed on REACH Candidate List
- Who?
    - ALL companies in the supply chain (Producer, Assembler, Distributor/reseller)
    - Need Legal Entity in Member State (MS) to be able to register
- How?
    - Provisons are outlined in Waste Framework Directive implemented at MS level
    - ECHA gives three submission-options…

Challenge 3: SCIP Compliance Obligations

How do OEMs identify where SVHCs occur within their product articles, across complex supply chains and ensure this data is submitted to SCIP correctly?

Solution 3: BOMcheck's SCIP S2S Integration

How do OEMs identify where SVHCs occur within their product articles, across complex supply chains and ensure this data is submitted to SCIP correctly?

BOMcheck SCIP S2S Integration includes:

- Additional SCIP data fields (IPC-1752B XML)
- Automated SCIP dossier generation and submission on change
- S2S integration to SCIP database with auto/manual submissions
- SCIP submission reports
- Parent company can submit SCIP data on behalf of group as SSN
- Automatic retry failsafe on SCIP outage

*"Siemens Healthineers uses BOMcheck to **automatically submit our product dossiers to the ECHA SCIP database** for all our 28 legal entities across Europe. We recommend BOMcheck as a practical and cost-effective solution for our suppliers to meet legal obligations."*

![Sphera logo]

Sphera is the leading global provider of integrated sustainability, risk & performance management software, data and services.

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