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# Arcadis Global PFAS Leader

BofA Fireside Chat  
November 2024

PART 1

# Introduction to PFAS

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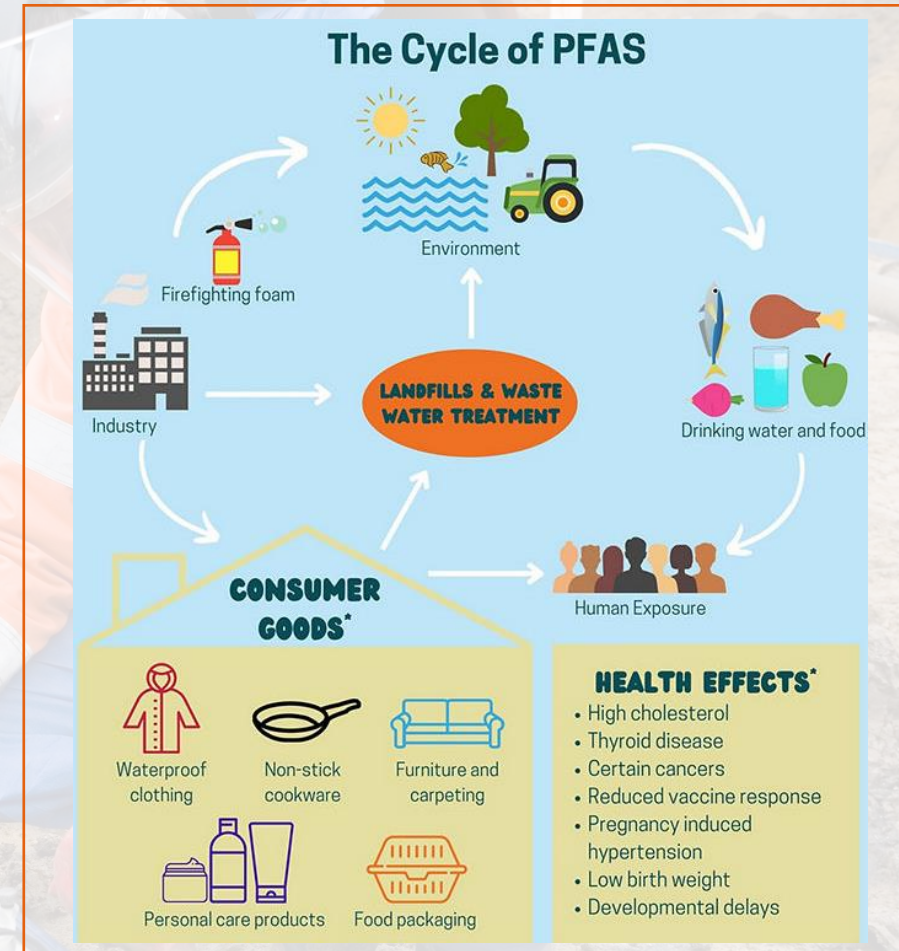
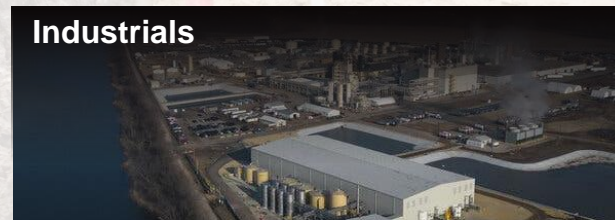
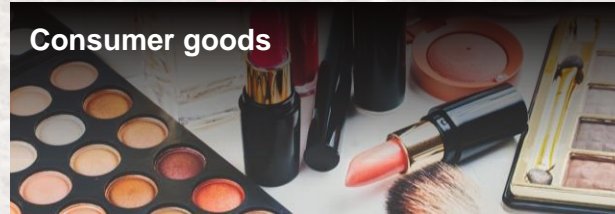
**Christine Disch**  
Global Investor Relations Director

# Introduction to PFAS

## The *Forever Chemical* adopted across sectors

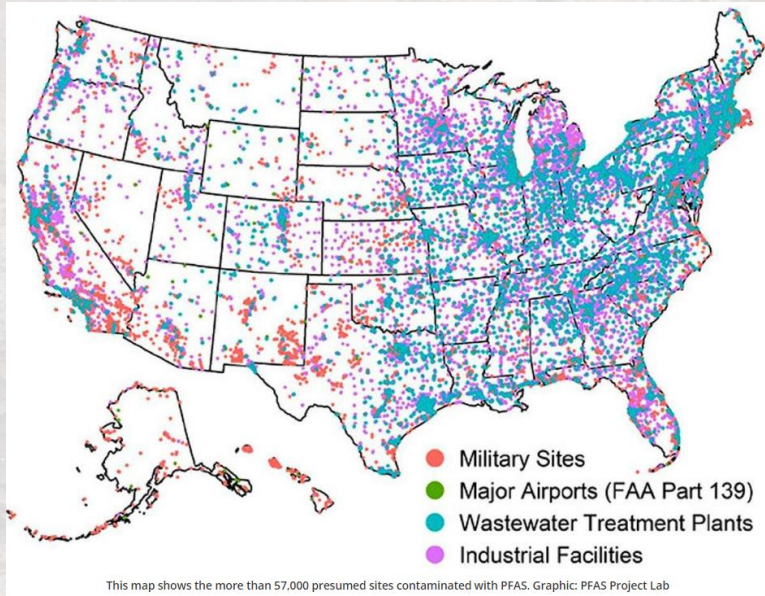
- Per- and poly-Fluoro-Alkyl Substances
- 10,000 human-made, toxic chemicals
- Water, grease, dirt and dust repellent
- Withstand heat well
- A well known PFAS = Teflon

### Examples of sectors



## The regulatory landscape

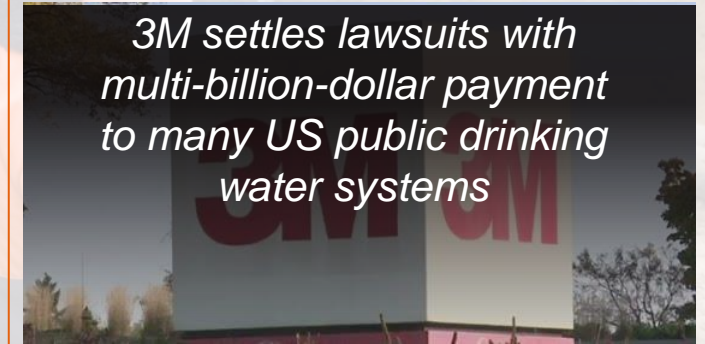
**Highly persistent and toxic with huge environmental and health liabilities...societal awareness and litigation growing**



*PFAS contamination likely at 58,000 sites in US*




*DuPont, Chemours and Corteva reach \$4 billion settlement in "Forever Chemicals" lawsuits*



## The regulatory landscape

# Tightening regulations in US and EU, driving significant investments across sectors

<p><b>Apr'24</b></p>  <p><b>First national limits on <u>PFAS</u> in <u>drinking water</u></b></p> <p>Monitoring by: <b>2027</b> Installing by: <b>2029</b></p>	<p><b>Sep'24</b></p>  <p><b>PFAS reporting on historical <u>production volumes</u></b></p> <p>Starting: <b>July 2025</b></p>	<p><b>Sep'24</b></p>  <p><b>Ban on use of 2 <u>PFAS</u> groups in <u>consumer textiles</u></b></p> <p>Transitional period until <b>2029</b></p>	<p><b>Ongoing</b></p>  <p><b>Restriction on the entire <u>PFAS</u> group</b></p>
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### *Significant investments required in sectors:*

Public utilities	Industrials, chemicals, oil & gas, consumer goods	Consumer goods	Industrials, Defense
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PART 2

# Arcadis PFAS offering

# Arcadis PFAS Key Highlights

## Arcadis: Global PFAS Leader



**>20**  
years of  
experience



**~€100M**  
Net Revenues  
20% CAGR<sup>1)</sup>



**80%**  
of PFAS net revenues  
generated in  
North America



**>1000**  
PFAS project  
sites to date

<sup>1)</sup> Net Revenues for full year 2023, and CAGR since 2015

# Arcadis PFAS Key Highlights

## Arcadis: key clients and services

Revenue split per client type



Key clients

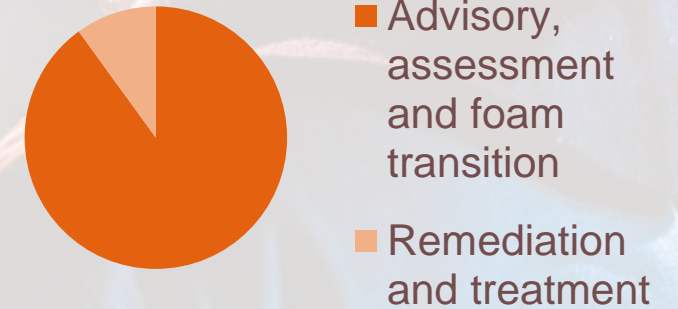
**Public**

US Army, US Airforce, US Army Corps of Engineers, UK DIO, Dutch Air Force, NATO, German Army

**Private**

Industrial manufacturing (i.e. chemicals, aerospace, automotive, conglomerates, life sciences), oil & gas

Revenue split per services



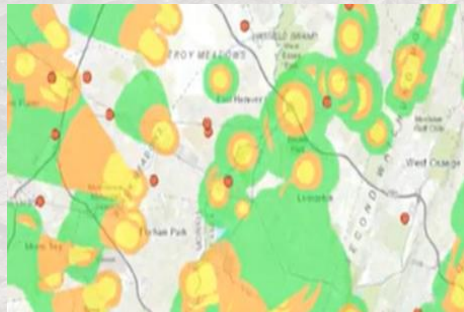
# Arcadis PFAS Offering

## At the forefront of a global effort to evaluate and remediate impacted sites and environments

### Arcadis Net Revenue drivers

#### Advisory & mapping

Scanning, assessing and mapping PFAS data through site and supply chain evaluation



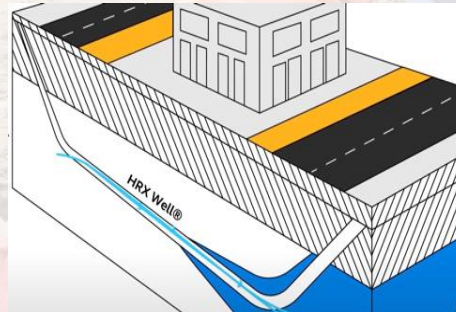
#### Field assessment

Locating and determining concentrations of PFAS in soil, ground-, surface-, wastewater



#### Remediation

Soil and water treatment: washing, stabilization, solidification, foam transition



#### Destruction options



#### Incineration

Extreme heat

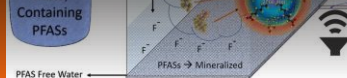


Not sustainable, high cost, high environmental risk



#### Sonolysis

Pressure, heat, sound waves



Arcadis ongoing R&D, sustainable, energy and cost efficient



#### Other Thermal Techniques

Combined with high pressure

## Arcadis' differentiating Why clients choose Arcadis

1

Global know-how,  
thought leadership

2

PFAS innovation  
leader: patented  
products

3

Integrated  
approach

## Arcadis PFAS Offering

# Recent market developments: what are we seeing in pipeline?

1

Industrials (water) market taking off

2

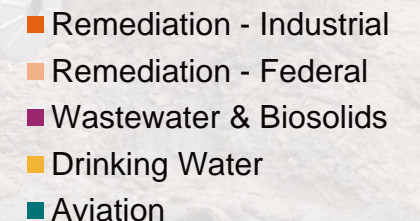
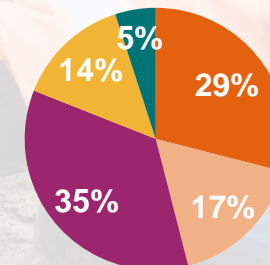
R&D spend aimed at PFAS destruction

3

PFAS and Water sector and converging

Global Market Size by 2026 estimated at **\$160B**  
with majority for Remediation

Relevant investment Program:  
\$10B IIJA funding for PFAS / emerging contaminants.





# Q&A

**Jeff  
Burdick**

Global Director  
for Environmental  
Restoration



**Christine  
Disch**

Global Investor  
Relations Director



This presentation is available at [arcadis.com/en/investors](https://arcadis.com/en/investors).

Please reach out to Arcadis Investor Relations for further queries: [ir@arcadis.com](mailto:ir@arcadis.com)



# Appendix



Why clients choose Arcadis

1

## Global know-how & thought leadership

A solid scientific, global community, driving regulations and solutions

Proofpoint

Assisting the Dutch Government to build a concise PFAS action framework and treatment strategy

A background image showing a group of people in a meeting. A man in a blue shirt is partially visible on the left. In the center, a man with a beard and a woman are smiling and looking towards the right. The scene is brightly lit, suggesting an indoor office or conference room setting.

Proofpoint

Why clients choose Arcadis

2

# PFAS innovation leader

Developing products and techniques in-house and through partnerships

Patented solutions: HRX Well™,  
Fluoro Fighter™, Sentinel™  
Passive Sampler

Exclusive patenting rights from  
Evocra

Proofpoint

Why clients choose Arcadis

3

## **Integrated approach**

**Combining advisory, engineering skills, environmental science and policy**

Serving large clients with multiple sites such as US Army and US Army National Guard

Integrated offering with Arcadis Water Optimization solutions

Project Example

1

# Unique PFAS solutions for remediating water

**Patented Ozone Fractionation Technology successfully removes PFAS from industrial sewer and storm water**

**Impact:** Reducing PFAS to concentrate volume of less than 1% of the original impacted volume, major water management cost savings for the client.

**Client:** Airline Operator | Australia



# Unique PFAS solutions for firefighting foam transition

**Providing essential environmental studies and remediation services of hazardous waste and munition response site**

**Impact:** Support safeguarding the health and safety of both the US Army's personnel and the installations' surrounding communities.

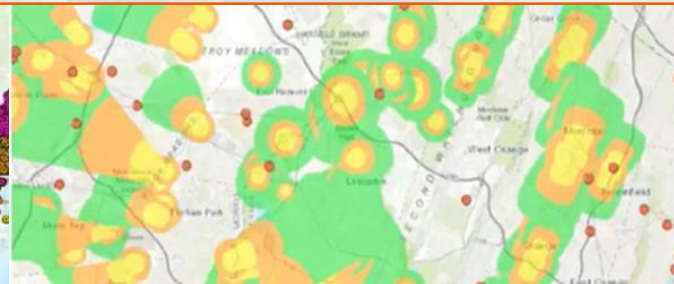
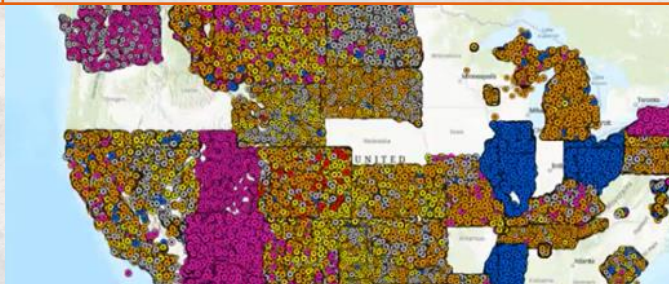
**Client:** US Army Environmental Command (USAEC) | US



## Arcadis PFAS Offering

# Combining expertise of Arcadis global network of specialists with in-house developed digital tools to offer best in class advisory

	Fluorofinder	PFAS Vulnerability Management Tool	Regulatory Tracker
<b>Solution</b>	Digital tool for supply chain investigation and advisory	Digital tool for site evaluation for soil and water	Digital tool for advisory and litigation support
<b>Clients</b>	Industrial manufacturing	Federal, defense, industrial manufacturing	Multi-state and multinational organizations
<b>Description</b>	AI based scanner of clients' supply chain documents to identify, eliminate and replace PFAS in clients' manufacturing process.	A Geographic Information System (GIS) based tool that accesses public PFAS data for site evaluation to assess potential liabilities, providing a head start on prioritizing actions without sampling or testing.	A client accessed dashboard by Arcadis (one-time or subscription-based), providing international database for country regulations and guidance pertaining to PFAS in all environmental media since 2010 to manage regulatory risks for clients' portfolios globally.
<b>Impact</b>	Cost reductions, decreased (future) liabilities		



## Arcadis PFAS Offering

# Innovative solutions for accurate low-cost PFAS assessment

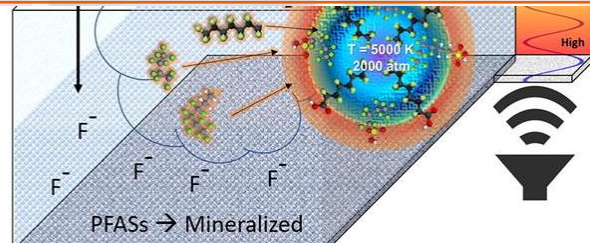
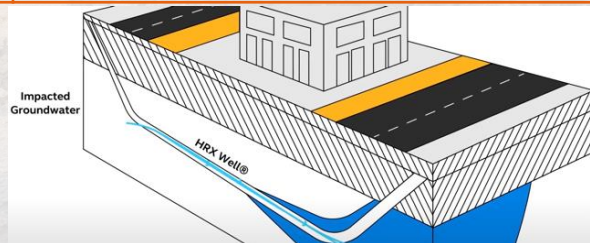
The Sentinel™ Passive Sampler for PFAS	
<b>Solution</b>	Water sampling and assessment
<b>Clients</b>	Federal, defense, industrial manufacturing
<b>Description</b>	Single use sampling device developed for PFAS concentration measurement using an adsorbent to sample PFAS to parts-per-trillion levels in groundwater, surface water and stormwater.
<b>Impact</b>	Provides time weighted mass flux of PFAS, without multiple labor-intensive seasonable field events. Significantly reducing the costs of sampling.



## Arcadis PFAS Offering

# Pioneering in water treatment technology through patented solutions and collaboration across industry leaders

	Horizontal Treatment Well™ (HRX Well™)	PFAS Destruction – Sonolysis and Super Critical Water Oxidation (SCWO)	Ozone Fractionation Technology (exclusive licensing rights Evocra)
<b>Solution</b>	Groundwater remediation		Industrial sewer & firefighting water remediation
<b>Clients</b>	Federal, defense, industrial manufacturing		Airports, defense, industrial
<b>Description</b>	Uses replaceable cartridges filled with treatment media, installed below surface.	Sonolysis uses high frequency sound waves to create cavitation and extreme heat, and SCWO uses high pressure combined with heat to create supercritical conditions that can destroy PFAS.	A type of foam fractionation in which hydrophobic molecules are separated from a liquid solution using rising columns of foam to remove PFAS from water by concentrating it in a small volume waste stream.
<b>Impact</b>	Significant cost savings thanks to underground application vs. moving water above surface to remediate. Reduces contaminants by 80% after one year.	Portable and deployable to facilities as more sustainable destruction methods compared to sending wastes to commercial landfills or incinerators.	Reduces PFAS to concentrate volume of <1% of the original impacted volume, major water management cost savings.



## Arcadis PFAS Offering

# Patented biodegradable solution for foam transition

Fluro Fighter™	
<b>Solution</b>	Firefighting foam transition (cleaning phase)
<b>Clients</b>	Airports, defense, aerospace
<b>Description</b>	Removal of PFAS in foam equipment and suppression systems using Arcadis-developed cleaning agent and replacement with fluoride-free foam. Providing full services in foam transition including planning and permitting, system upgrades and testing.
<b>Impact</b>	Reduces foam transition costs by reducing or eliminating time-consuming re-work, mitigating contamination of replacement foams and avoids widespread component replacement.

