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# Process Simulation – Partnering for Success

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AVEVA

# Partnering for Success

- We have partnered very successfully for many years with companies who bring advanced capabilities that it is more effective for us to leverage rather than to try to replicate it all in-house
- Many of these partnerships are possibly well known to the members of the Advisory Group however we want everyone to be aware of our capabilities through our partners in case there is a need in your organization

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# Partnering for Success

- Sulzer - Column internal calcs & Koch Glitsch - Column internal calcs, RATEFRAC and BATCHFRAC
- GTT Technologies - interface of ChemApp with PRO/II for high-temperature inorganic process
- DDBST GmbH: provides huge databanks of properties and UNIFAC parameters. Interfaces with the software package (DDBSP) have been developed. UNIFAC Consortium members can utilize the Consortium databank in some AVEVA products. The Consortium databank is updated every year with a significant number of new and revised parameters and group definitions.
- Technical University Dortmund: Collaboration on developing the latest version of Electrolyte PC-SAFT
- Cost Engineering – Cleopatra cost estimating (for PRO/II) and project controls software (for UPE)
- Schlumberger – AMSIM acid gas removal unit package in PRO/II
- ExxonMobil – Reactor models for ROMeo
- HTRI – Rigorous heat exchanger model in PRO/II and coming to AVEVA Process Simulation soon
- MySep - rigorous gas liquid separation modelling considering entrainment in DYNSIM
- West Virginia University – Support for AVEVA academic program and model libraries for SimCentral
- Esteco - ModeFrontier interface covered earlier today
- **Others are covered in following slides**

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# Strategic Partnerships: OLI Systems

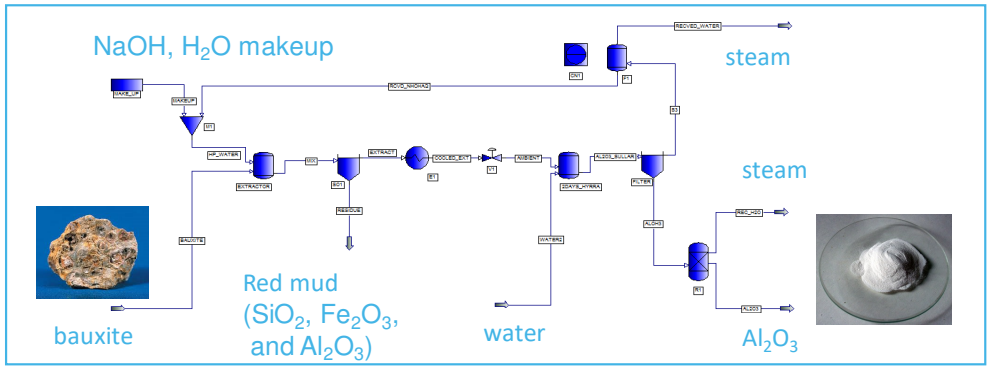
Partner: OLI Systems, Inc.

- Global leader of electrolyte thermodynamics, and provides software such as OLI MSE Engine for simulating electrolyte systems

Benefits of OLI-AVEVA Partnership for Customers

- OLI Engine enables AVEVA™ PRO/II™ Simulation to conduct process simulation of electrolyte systems in organic/inorganic chemicals, Oil & Gas, metal-mining, water-treatments etc.

Example simulation: Production of Alumina from bauxite




**Website of OLI Systems**
https://www.olisystems.com/company

- **Core competencies**
  - Electrolyte thermodynamics
  - Aqueous corrosion prediction
  - Process simulation
  - Electrochemical corrosion simulation
- **Core values**
  - **Getting the chemistry right**
  - Furthering the science
  - Making complicated technology accessible
  - Delivering service through experts
- **Profile**
  - Privately held corporation
  - Corporate office in NJ USA
  - Established 1971
  - Provides software, training, consulting

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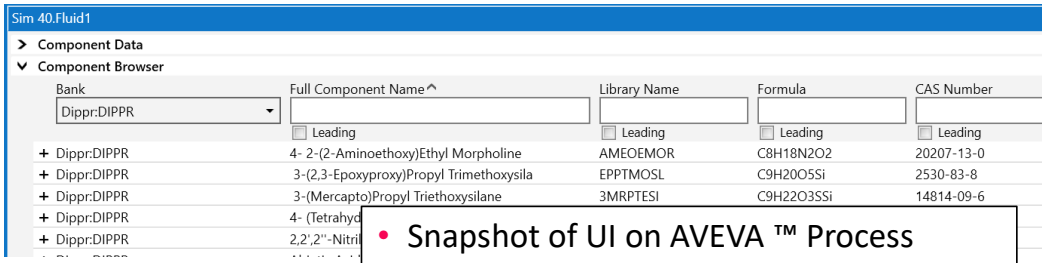
# Strategic Partnerships: DIPPR

Partner: Design Institute for Physical Properties(DIPPR)

- One of best worldwide known sources for critically evaluated thermophysical property data for components.

Benefits of DIPPR-AVEVA Partnership for Customers

- Users can enjoy high accuracy of process simulation applying critically evaluated thermophysical property data of DIPPR
- Users can apply additional data of AVEVA such as alpha parameters for CEOS together with parameters supplied from DIPPR




- Snapshot of UI on AVEVA ™ Process Simulation to select DIPPR Bank

**Website of DIPPR:**
https://www.aiche.org/dippr/about

**Profile**

- The "Design Institute for Physical Properties" DIPPR is a Technical Society of the American Institute of Chemical Engineers AIChE(non-profit organization ).
- DIPPR® Thermophysical Properties Laboratory is located at Brigham Young University, Provo, Utah, USA

Collaborative solutions for customers

- AVEVA redistributes DIPPR LITE databank with AVEVA™ Process Simulation, AVEVA™ PRO/II™ Simulation and AVEVA™ Dynamic Simulation
- Users of the AVEVA Products who are DIPPR Sponsor members are eligible to use DIPPR Sponsor Databank in the AVEVA Products

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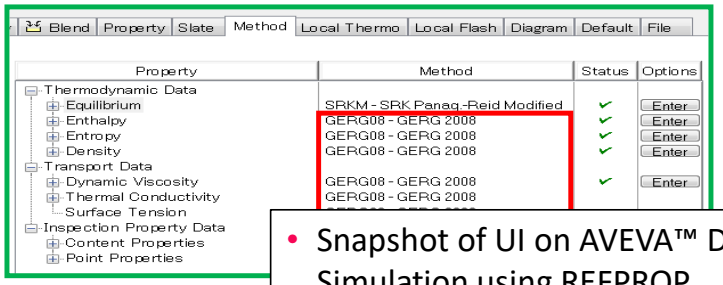
# Strategic Partnerships: NIST

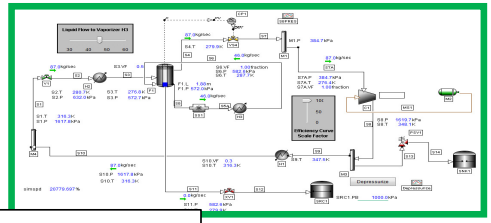
Partner: National Institute of Standard and Technologies (NIST)

- One of best worldwide known sources for critically evaluated thermodynamic properties for mixtures and components. Provides REFPROP which is highly accurate for natural gas and refrigerants

Benefits of NIST-AVEVA Partnership for Customers

- Users can enjoy high accuracy of process simulation applying REFPROP to natural gas and refrigerants



- Snapshot of UI on AVEVA™ Dynamic Simulation using REFPROP

**Website of NIST:**
https://www.nist.gov/

**Profile**

- Thermodynamics Research Center (TRC) supplies thermodynamic properties tables, thermophysical properties data, models, standards and research for industry, public health and safety, and the environment.
- Produces the Nation's Standard Reference Data (SRD) and data product such as REFPROP (Reference Fluid Thermodynamic and Transport Properties)

Collaborative solutions for customers

- AVEVA™ PRO/II™ Simulation and AVEVA™ Dynamic Simulation have interfaces with REFPROP
- AVEVA redistribute DLL of REFPROP with AVEVA™ PRO/II™ Simulation
- AVEVA is an industrial partner of TRC of which data has been effectively utilized for developments of AVEVA Products

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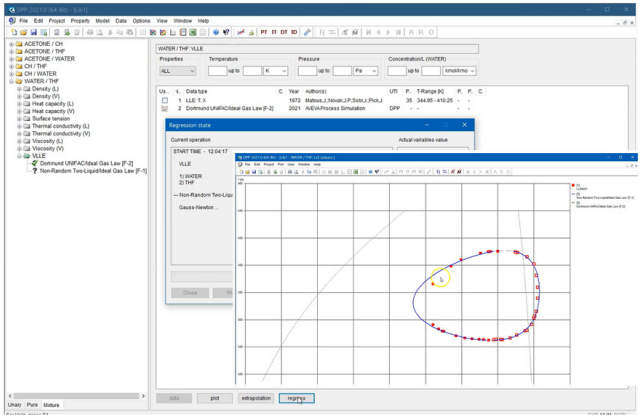
# Strategic Partnerships: DECHEMA

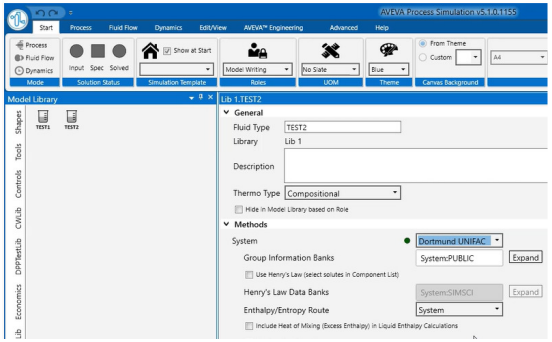
Partner: DECHEMA

- Deutsche Gesellschaft für Chemisches Apparatewese (German Society for Chemical Apparatus)
- DECHEMA supplies Data Preparation Package (DPP), DETHERM and many other database/software. DPP is a software package for the regression of thermophysical property models. DETHERM is a databases for properties. Both have been widely utilized by major chemical companies.

Benefits of DECHEMA-AVEVA Partnership for Customers

- Enables users to manage/ determine parameters of thermodynamic methods in AVEVA Process Simulation, utilizing excellent regression capability of DPP and huge number of experimental data in DETHERM.





**Website of DECHEMA**
https://dechema.de/

**Profile (from the web-site)**

- DECHEMA is the expert network for chemical engineering and biotechnology in Germany. As a non-profit professional society DECHEMA represents these fields in science, industry, politics and the general public.
- DECHEMA promotes scientific and technical exchange among experts from different disciplines, organizations and generations. DECHEMA consolidates the know-how of over 5,800 individual and sustaining members.

Collaborative solutions for customers

- Interface between DPP and AVEVA Process Simulation

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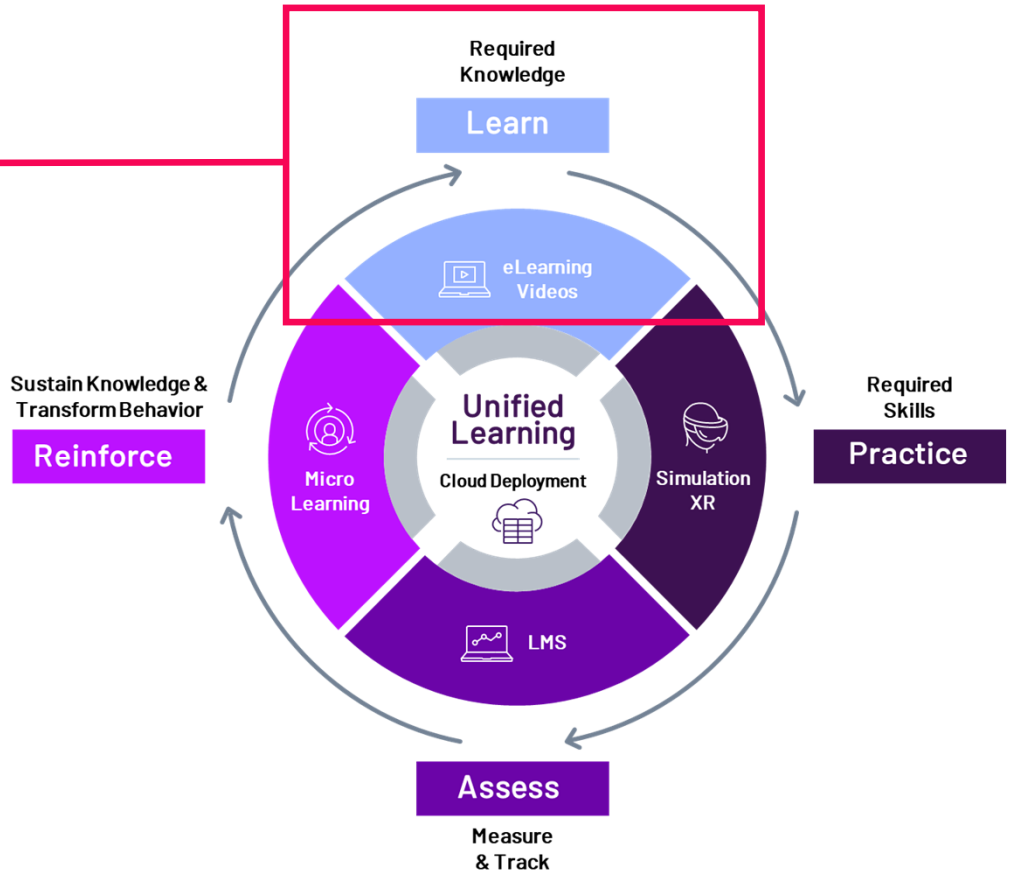
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# AVEVA & Operations Excellence Group (OEG) partner to deliver library of learning content for process and equipment fundamentals

**Available libraries:**

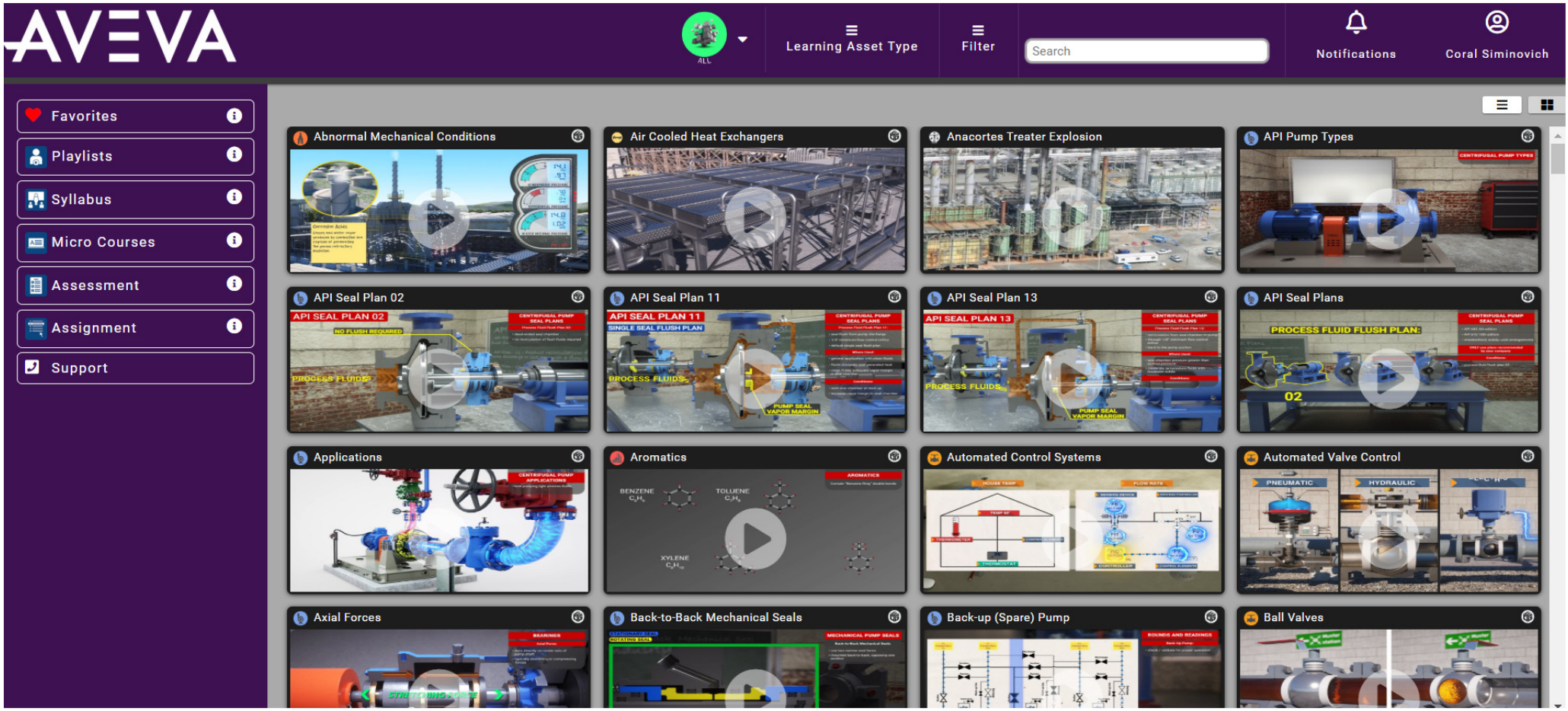
- Basic Process Science
- Distillation
- Fired heater
- Centrifugal pump
- Valves
- Heat exchanger




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# Operations Excellence Group (OEG) – www.oegllc.com Example Example2

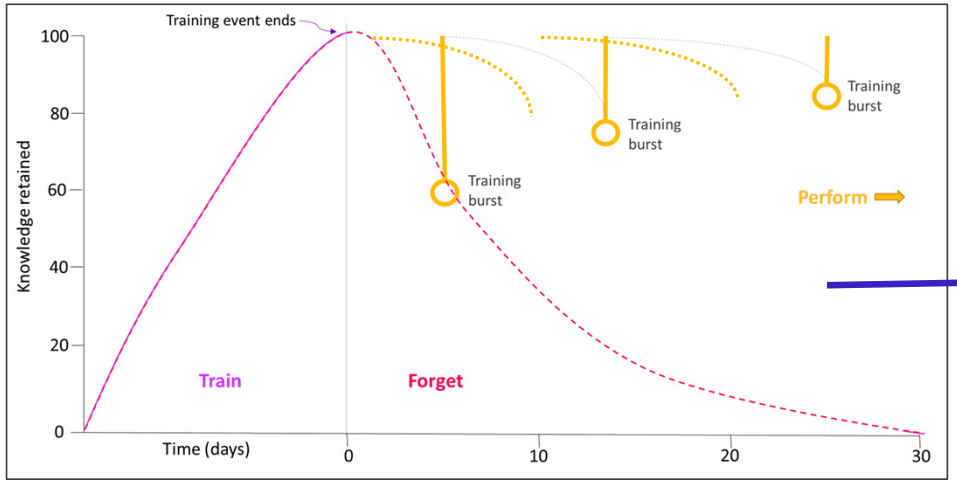


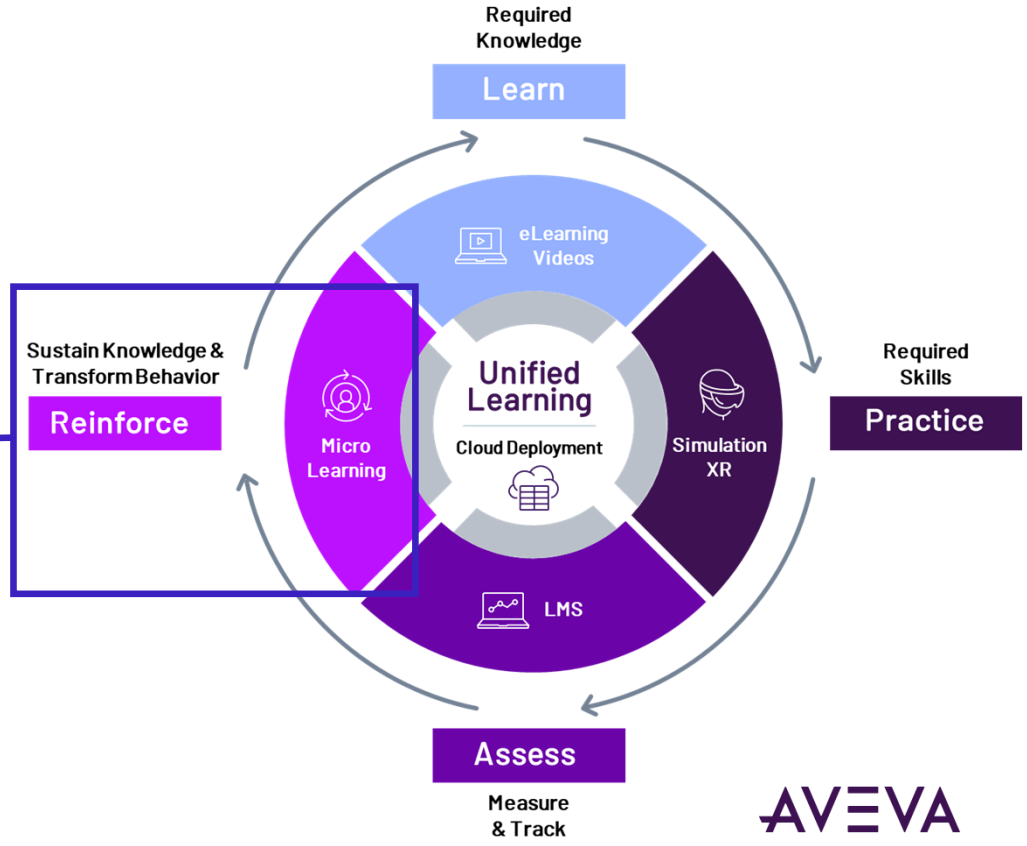

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# AVEVA and Axonify deliver first AI Microlearning Solution to Industry 4.0 Customers

## Makes sure your frontline employees remember to do the things that matter most to your business




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# Who is Axonify?



50 | Technology Fast 50 2018 CANADA WINNER
Deloitte.

Brandon Hall GROUP
EXCELLENCE IN TECHNOLOGY AWARDS
GOLD
2019

2019 GROWTH 500
CANADA'S FASTEST-GROWING COMPANIES

AI BREAKTHROUGH AWARD 2019

learning technologies awards

TOP 20
TOP TRAINING COMPANIES
TRAINING INDUSTRY

Brandon Hall GROUP
EXCELLENCE IN TECHNOLOGY AWARDS
GOLD
2017

Brandon Hall GROUP
EXCELLENCE IN TECHNOLOGY AWARDS
GOLD
2018

Axonify™
Recognized as
Technology Pioneer 2020
WORLD ECONOMIC FORUM

ONBOARDING PROGRAMME OF THE YEAR
2018 FINALIST
THE LEARNING AWARDS

**47**
languages
**142**
countries

**80%+**
voluntary participation rates

**+38.9M million**
microlearning moments delivered each month.

**1st**
to tie learning to behaviors & business results.

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