

# Reflecting on 10 years of CO-LaN

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# Overview

- ◆ **Foundation & objectives of CO-LaN**
- ◆ **Membership**
- ◆ **Deliverables**
  - ⇒ **Conferences & Dissemination**
  - ⇒ **Interface specifications**
  - ⇒ **CAPE-OPEN tools**
- ◆ **Interoperability testing**
- ◆ **CAPE-OPEN compliant software**
- ◆ **CO-LaN Award**
- ◆ **Current & future plans**

# CO-LaN

- ◆ “CAPE-OPEN Laboratories Network”
- ◆ The industry standards body for the CAPE-OPEN interfaces
  - ⇒ Interoperability of process simulation components
- ◆ Founded in February 2001
  - ⇒ A deliverable from the Global CAPE-OPEN project
  - ⇒ A not-for profit organisation
  - ⇒ **10 years in 2011**

# Objectives

- ◆ **Understand user priorities**
- ◆ **Facilitate communication & co-operation between vendors**
- ◆ **Promotion to end users**
- ◆ **Distribution of CAPE-OPEN information & technology**
- ◆ **Management of interface specifications**
- ◆ **Independent testing**
- ◆ **Training and provision of tools**

# Membership

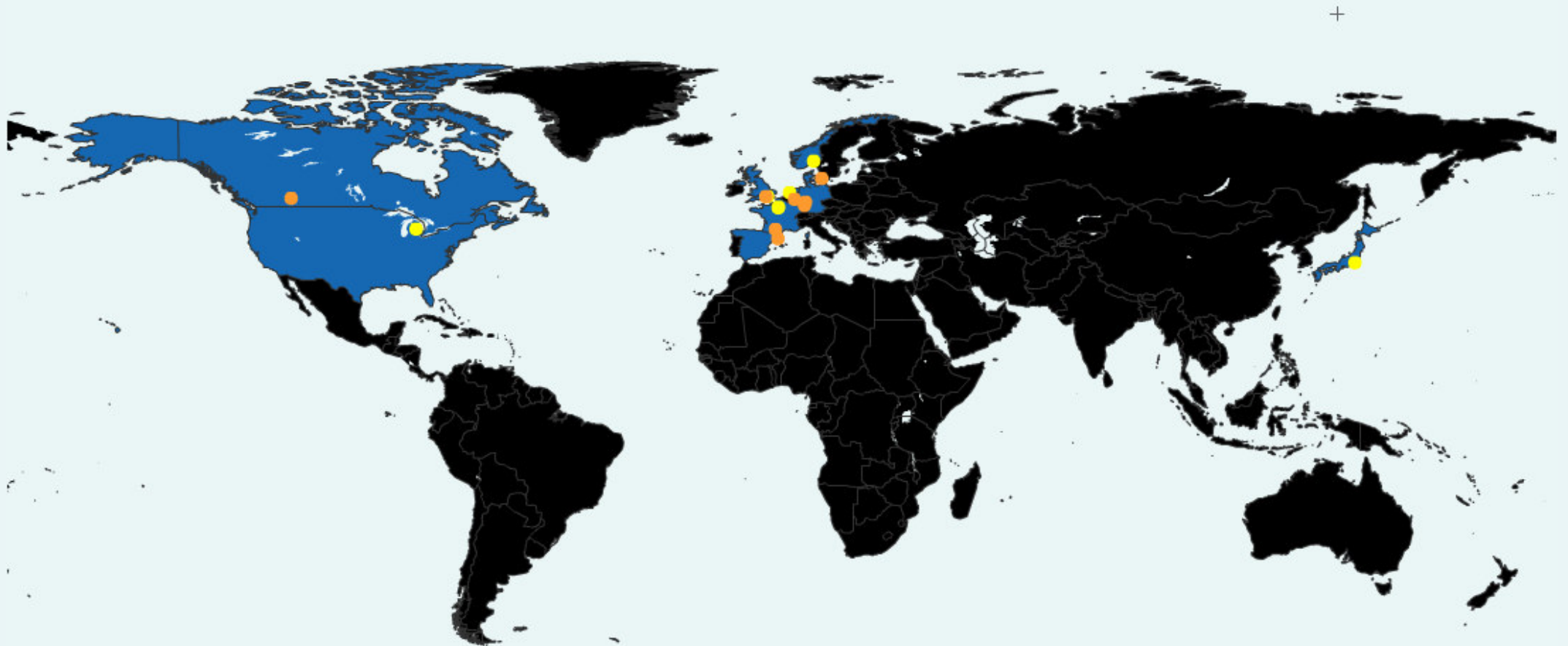
## ◆ Full members

- ⇒ Operating companies
- ⇒ Membership fee funds the operation of CO-LaN

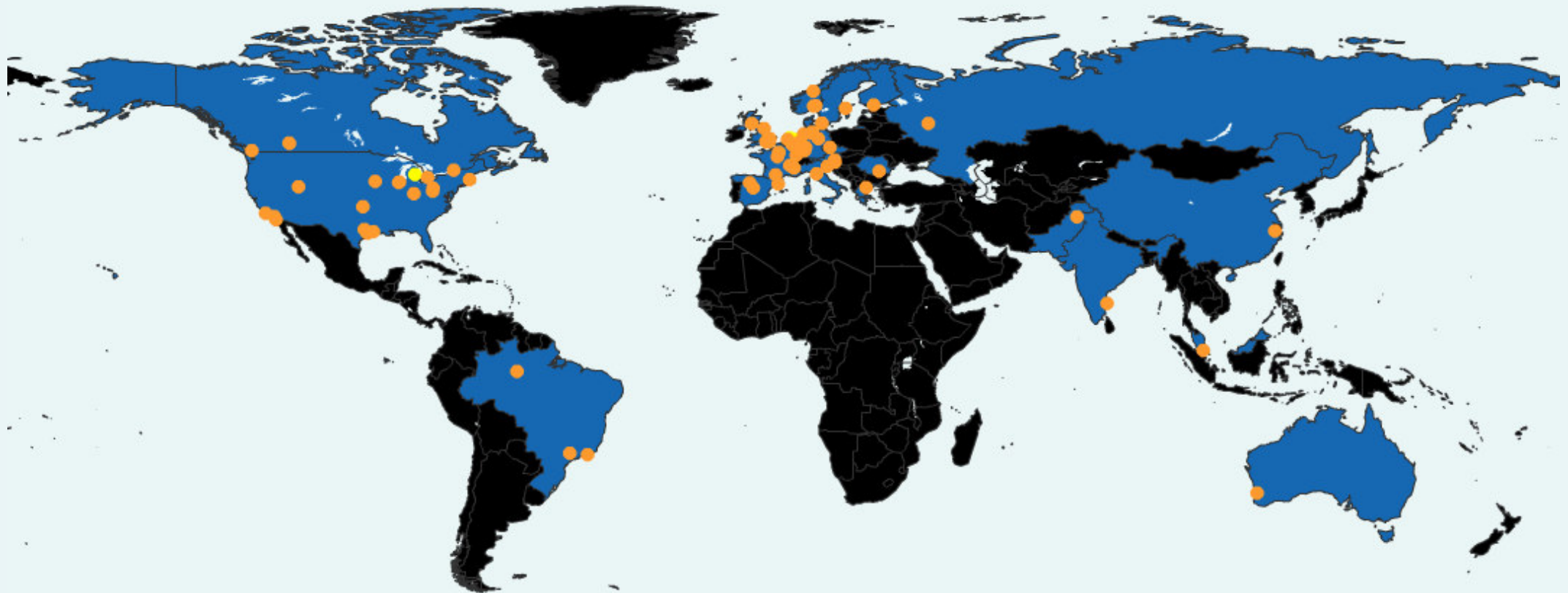
## ◆ Associate members

- ⇒ Academics
- ⇒ Software and equipment vendors
- ⇒ No fees!

# Membership distribution in 2001



# Membership distribution in 2011



# CAPE-OPEN Conferences & Dissemination

- ◆ **European conferences**
  - ⇒ 6 since 2004
  - ⇒ Developer bias
  - ⇒ Including a 1 day “interoperability workshop”
- ◆ **US conferences**
  - ⇒ 6 since 2004
  - ⇒ Aimed at end-users
  - ⇒ Latterly with AIChE conference
- ◆ **2 Open sessions at ECCE**
- ◆ **Dissemination**
  - ⇒ Website
  - ⇒ Forum
  - ⇒ Newsletters

# Interface specifications

## ◆ New interfaces

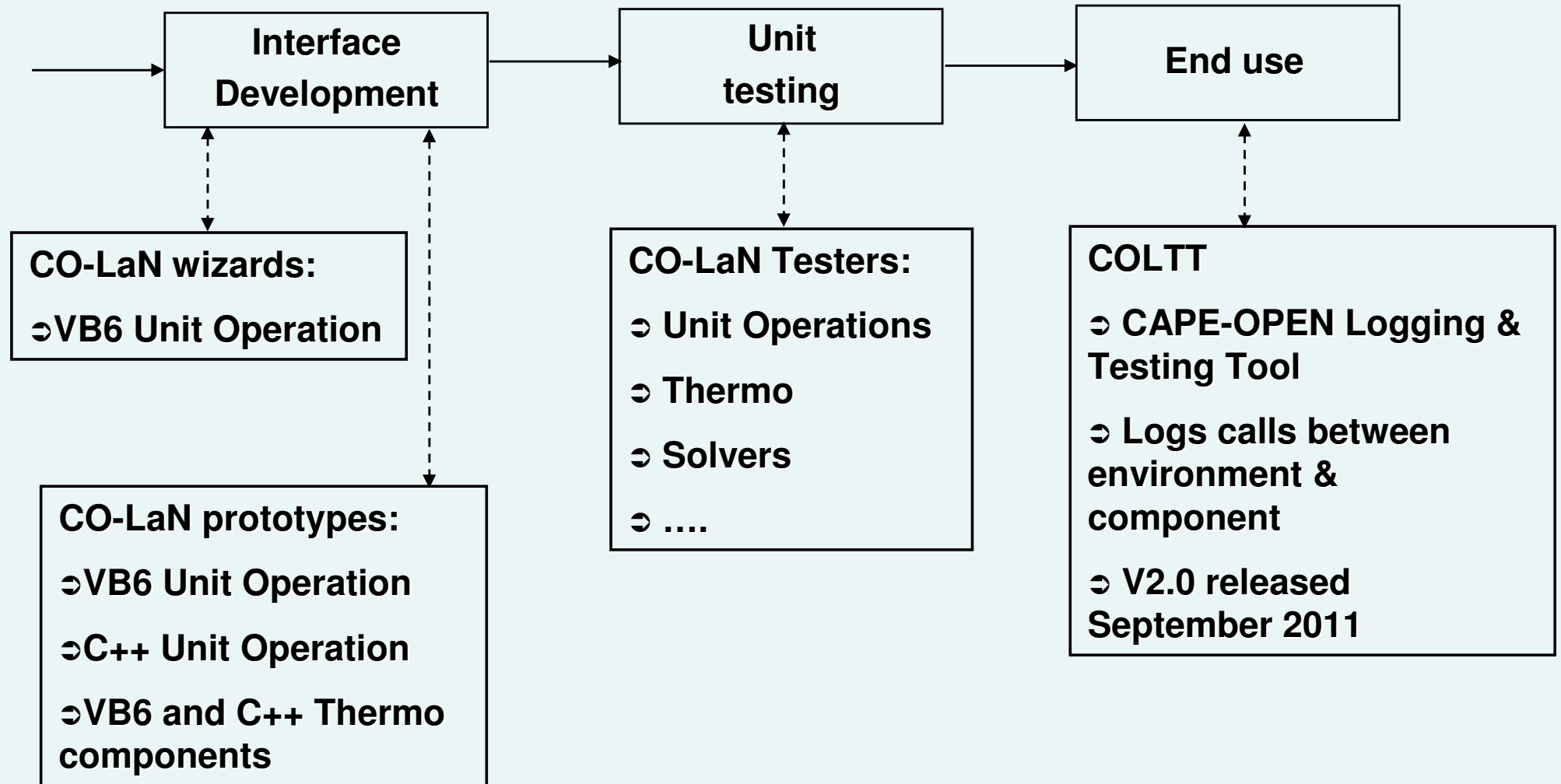
- ⇒ V1.1 Thermodynamic and Physical Properties released
- ⇒ Under development
  - Hydrodynamic calculations
  - Dynamic Unit Operations
  - Flowsheet Monitoring
  - Compound data server

## ◆ Updated

- ⇒ Set of v1.0 documents polished in 2003
- ⇒ Thermodynamic and Physical Properties specs
  - V1.0 and v1.1 documents clarified and released in May 2011
- ⇒ Unit Operations spec
  - Request For Comments on clarified document

# CO-LaN Tools

Freeely available to the CAPE community



# Interoperability Testing

- ◆ **Point-to-Point testing of Components & Environments**
- ◆ **Schedule defined by CO-LaN Full Members**
- ◆ **Results of testing are confidential, and limited to**
  - ⇒ **Members of Management Board and CTO**
  - ⇒ **Individual vendors**
- ◆ **A major contribution to on-going improvements in the CAPE-OPEN implementations**

# Some CAPE-OPEN compliant software

- ◆ Not an exhaustive list
- ◆ Process Modelling Environments
  - ⇒ CoCo (Amsterchem)
  - ⇒ AspenPlus & HYSYS (AspenTech)
  - ⇒ Unisim Design (Honeywell)
  - ⇒ gPROMS (PSE)
  - ⇒ PRO/II (SimSci)
  - ⇒ ProSim Plus (ProSim)
- ◆ Components
  - ⇒ XChanger Suite (HTRI)
  - ⇒ MultiFlash (Infochem)
  - ⇒ PPDS (TÜV SÜD NEL)

# CO-LaN Award

## ◆ Awarded for significant contribution to the advancement of CAPE-OPEN

- ⇒ Siegfried Nagel, 2001
- ⇒ Daniel Pinol, Michael Halloran & Richard Szczepanski, 2002
- ⇒ Hans Horst Mayer, 2003
- ⇒ Pascal Roux, 2004
- ⇒ Fernando Aguirre, 2005
- ⇒ Jasper van Baten, 2006
- ⇒ Peter Banks, 2007
- ⇒ Bill Barrett, 2008
- ⇒ SolidSim Engineering GmbH, 2009

# Endorsements of CO-LaN

- ◆ **EFCE Working Party in Computer-Aided Process Engineering**
  - ⇒ **Bertrand Braunschweig and Michel Pons awarded an “Innovative Achievement Award” in 2006**
- ◆ **European Group of AspenTech Software Users (EGAS)**
- ◆ **Groupe Informatique et Procédés (IEP)**
- ◆ **VDI-Gesellschaft**

# Current & Future Plans

- ◆ **Continue to encourage the adoption and use of the CAPE-OPEN interface standards**
- ◆ **Further enhance the collaboration between operating companies, vendors and academics, to**
  - ⇒ **Increase the catalogue of CAPE-OPEN compliant software**
  - ⇒ **Ensure that implementation of the standards makes business sense for all members of CO-LaN**