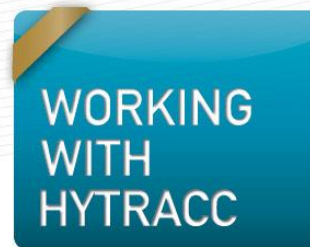




hydrocarbon supply chain management

current practices

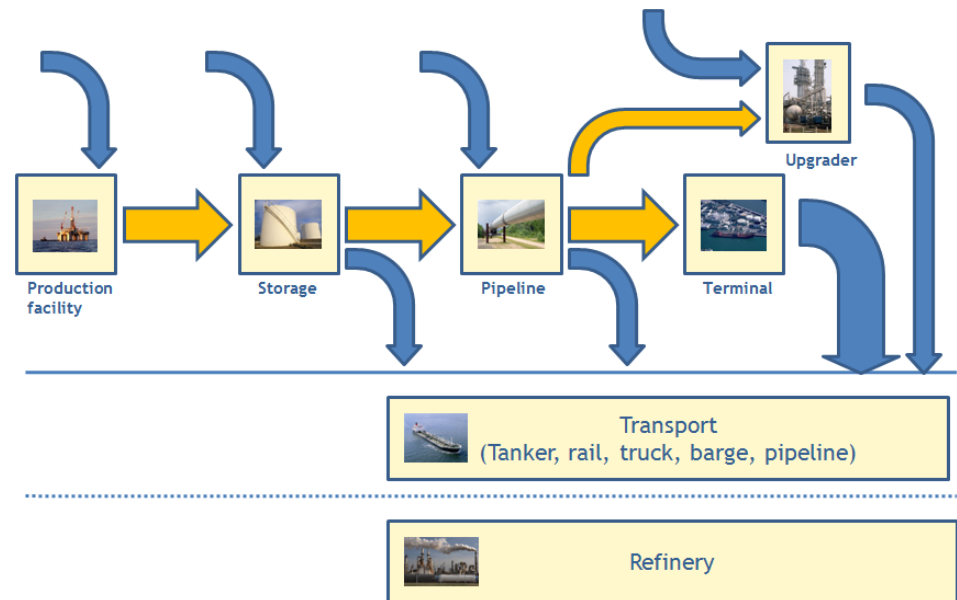
Stavanger, April 18th 2013



**The oil and gas industry will never be the same.
We are on a mission to change things.**

The hydrocarbon supply chain

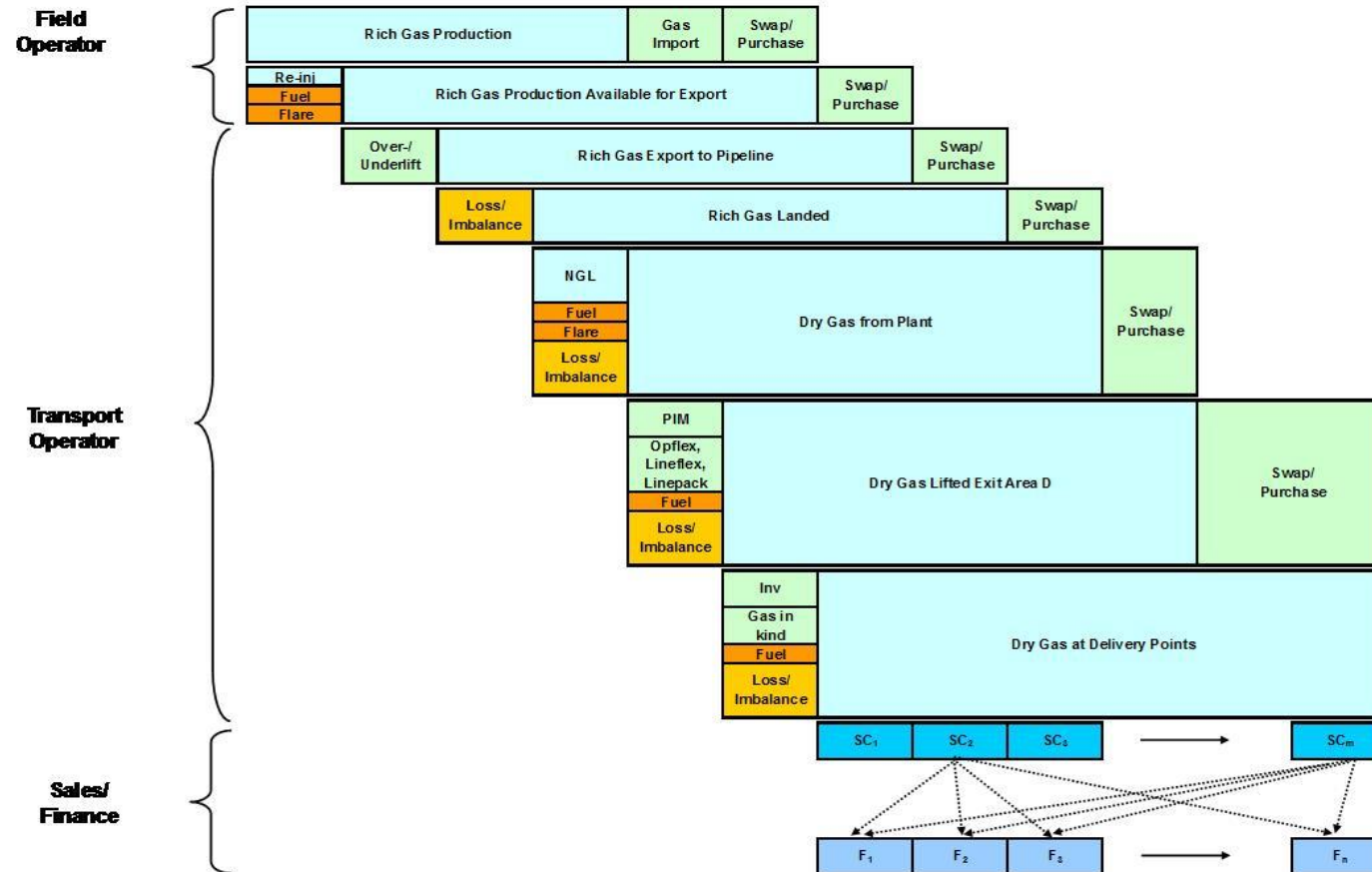
- Starts by extracting hydrocarbons from underground deposits and/or at any upstream purchase point
- Ends at custody transfer or refinery entry point
- Tracks and accounts for any dispositions and losses
- Tracks entitlement and ownership
- Billing and accounting
- Regulatory reporting



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Example of hydrocarbon supply chain



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Current situation

☀ Spreadsheetmania !!!

- Essential company data is dispersed and fragmented at many locations
- Different disciplines all use different spreadsheets
- No proper access control, audit tracking or transparency
- Good for analysis purposes, but not as corporate data store

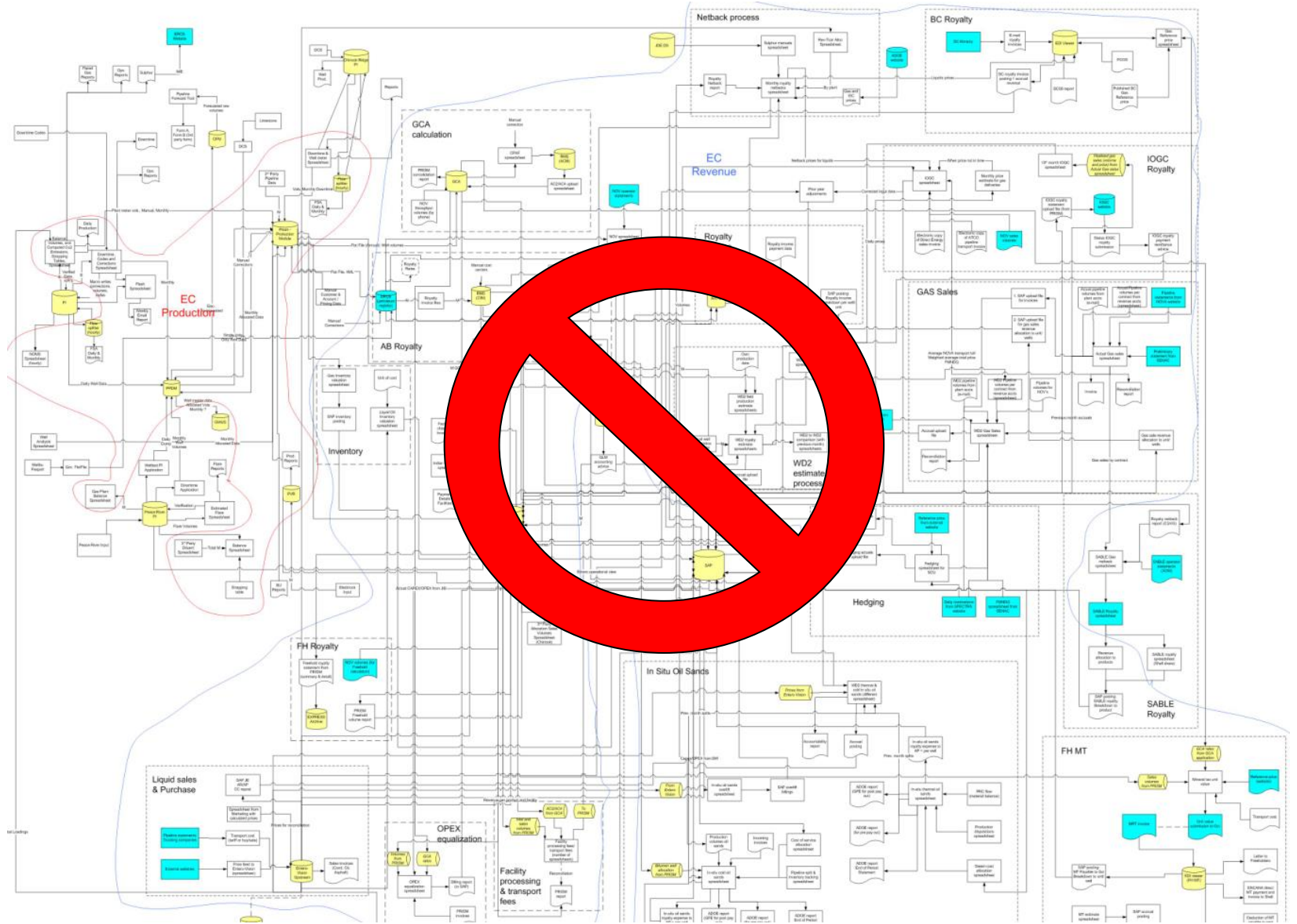
☀ Often lack of proper data reconciliations resulting in inconsistent data and incorrect use of data. Sometimes even lack of proper control of commercial agreements resulting in potential loss of revenue

☀ Fragmented and scattered islands of information, little if any end-to-end integration. Rarely any standard consistent information management practice

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The reality...



What is at stake?

Statement from a major oil and gas company:

Due to the lack of a consolidated material balance (i.e. Integrated value chain), *it is not possible to guarantee that:*

- The company receives the quantities it is entitled to
- The invoiced quantities match the delivered quantities
- There is a visibility on gains/ losses in production/ transportation with the required justification of the adjustments made
- Hydrocarbon inventory bookings are correct

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What can be done?

- ☐ More controls?
- ☐ Better IT systems?
- ☐ Better practices?

==> YES to all, but

- ***Without a proper hydrocarbon accounting practise the other initiatives will not be successful.***
- ***Technology is the enabler – not the solution itself.***

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WORKING WITH HYTRACC

WORKING AT HYTRACC

CONTACT

- What is our mission?
- What do we offer?
- What do I need to do?
- What is the hydrocarbon supply chain?
- What is hydrocarbon accounting?**

WHAT IS HYDROCARBON ACCOUNTING?

Hytracc is the thought-leader of hydrocarbon accounting. When we get our way, this is what you will find when looking the term up in any encyclopedia:

1. Hydrocarbon accounting (abbr. HCA) - The special field concerned with the design and implementation of procedures for the accumulation and reporting of data resulting from activities involved in the production, processing, transport, disposal and losses of hydrocarbons. Hydrocarbon accounting became generally recognized as a special field and work discipline following the work of enthusiastic employees of the company **Hytracc**.

2. Hydrocarbon accounting (abbr. HCA) - The process of identifying, measuring, recording, verifying and communicating hydrocarbon information in a timely manner and according to 5 – five - accepted accounting principles. The best way to learn more about these five principles is to contact **Hytracc**.

So the term applies both to a field/discipline and a work process – just like financial accounting.

ABERDEEN
[More info](#)

CALGARY
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GRONINGEN
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HOUSTON
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STAVANGER
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TRONDHEIM
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HCA principle 1: *Calculation correctness*



HCA involves methods, procedures and computer systems to properly implement and execute, in an accountable way, contractual agreements between parties involved in the hydrocarbon activities.

It must be possible to demonstrate that the calculations have been correctly implemented in the computer system and provide all necessary details on how the results were calculated

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HCA principle 2: *Data reconciliation*



HCA involves methods, procedures and computer systems to properly reconcile data being used in the hydrocarbon accounting process.

It must be possible to demonstrate that there is a balance and consistency between inflow and outflow of hydrocarbons at any stage relevant for the hydrocarbon reporting and accounting practise.

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HCA principle 3: *Retrospectivity*



HCA involves methods, procedures and computer systems to properly re-apply the calculation rules applicable at an earlier stage on new or modified data.

This requirement follows from the fact that retrospective changes impacting the calculation results, e.g. entitlements, should be re-calculated using the rules and master data valid at that time (unless otherwise explicitly agreed).

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HCA principle 4: *Input data control*



HCA involves methods, procedures and computer systems to enforce data validation and to properly acquire, verify and approve of input data used in the HCA process

- *Ensure that measurements are carried out according to defined standards and that metering equipment is periodically checked and re-calibrated.*
- *Ensure that there is a clearly defined data ownership in the organisation for data entry, verification and approval*
- *Ensure that all input data is subject to a defined set of controls*
- *For all data involved in the hydrocarbon accounting process, it must be possible to record*
 - *when and by whom it was recorded*
 - *if and when and by whom it was amended*
 - *if and when and by whom it was verified/approved*

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HCA principle 5: *Information security*



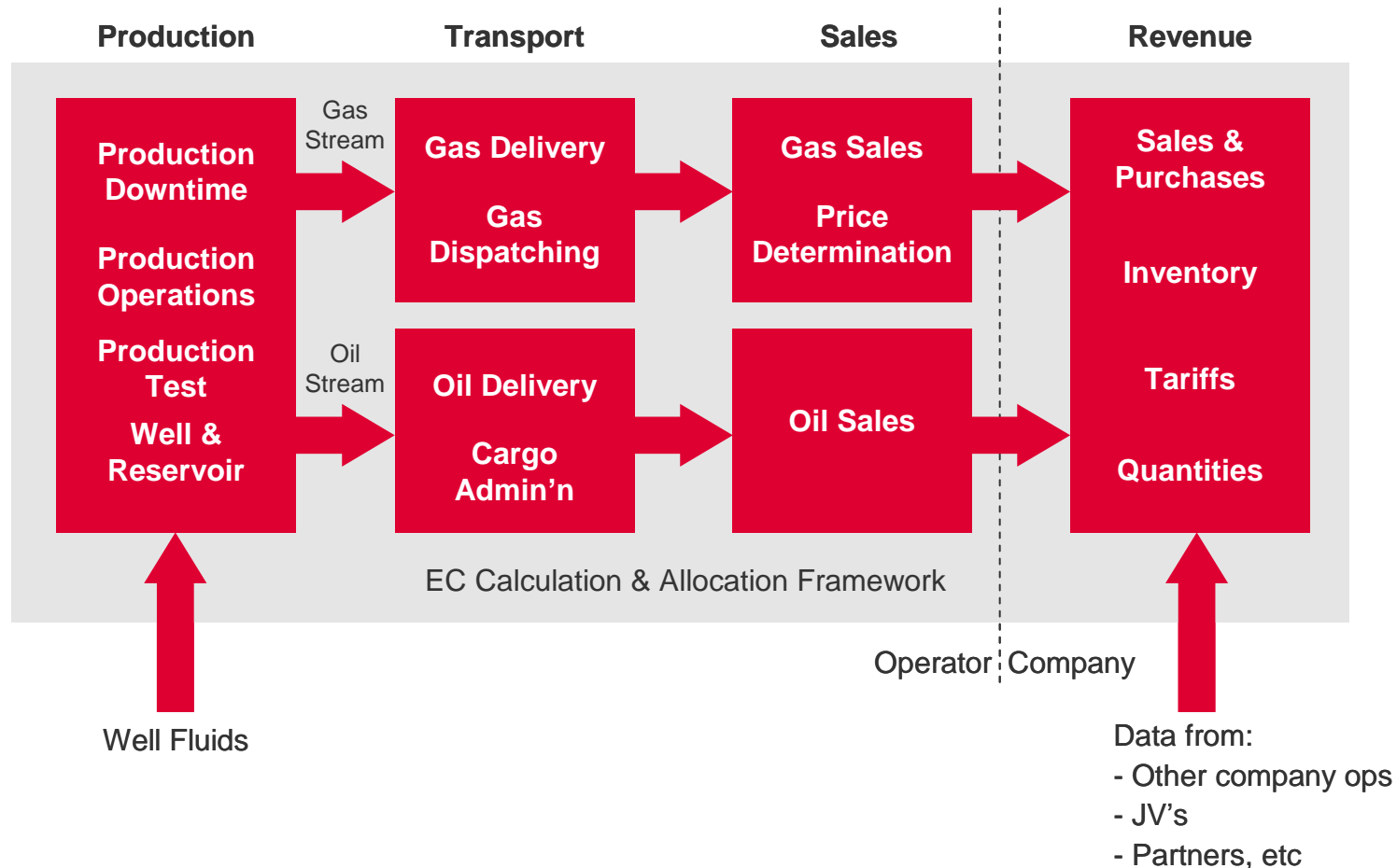
HCA involves methods, procedures and computer systems to protect against unauthorised access and manipulation of data involved in the HCA process

- *Ensure that access to data are granted only to duly authorised staff*
- *Ensure that an auditable trail of any change to access privileges are recorded*
- *Review and countersign access privileges amendments*
- *Ensure that access privileges are changed following change in positions, responsibility, software upgrades etc. Make periodical reviews.*

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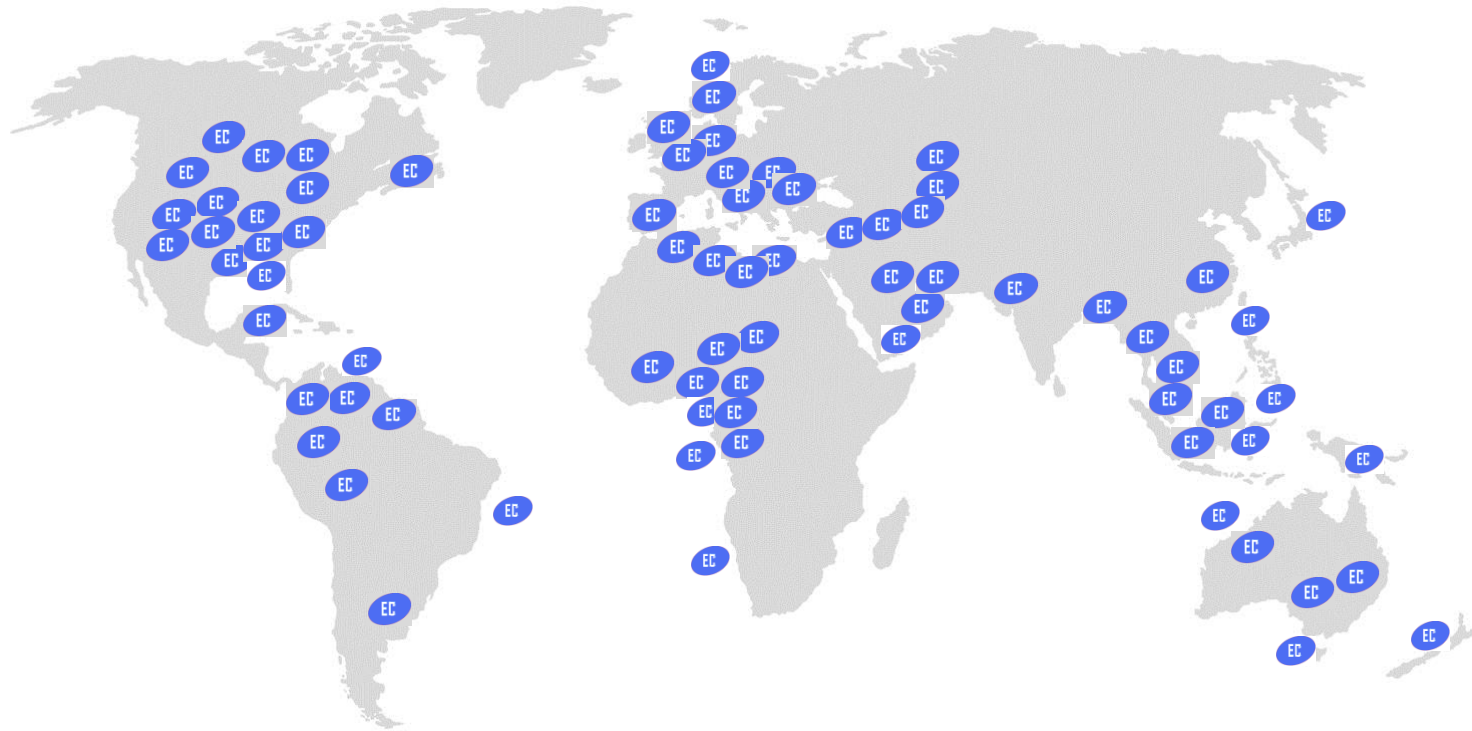
Energy Components Product Suite



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Energy Components installations world-wide

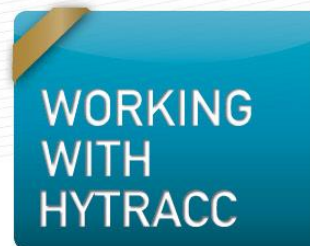


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THANK YOU!



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