



ENVIDATEC

ENVIDATEC

Energy Efficient into the Future !

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Bangkok, Thailand, 06/03/2016

Company Presentation

Company Development

- Foundation as independent company out of an E.ON competence center for energy management systems
 - Core competences at energy efficiency analyses, energy management systems, energy data controlling, individual solutions and their implementation
 - Services and software solutions for efficient energy use
-
- **2001** Head office in Hamburg, Competence center for efficient energy use
 - **2004** Branch office as scientific center for research and development in Wien
 - **2007** Foundation of the omtec Energiemanagement GmbH, Wien
 - **2009** Orientation „Energy efficient into the future – DIN EN 16001“
 - **2010** Foundation of the subsidiary OOO Envidatec Ost (Jekaterinburg)
 - **2011** Orientation „Energy efficient into the future – DIN EN ISO 50001“
 - **2012** Start of OpenJEVis as R&D network (open source community)
 - **2014** Start of JEVis partner network

Envidatec Competences

**Energy
Management System
ISO 50001**

**Energy
Efficiency Analysis**

**Energy
Monitoring**

Envidatec Business Units

Energy Solutions

Short Term

**Long Term
- Service Contract**

**International
Cooperation**

Short Term

**Long Term
- Franchising**

JEVis Solutions

Short Term

**Long Term
- JEVis Services**

Envidatec References

Energy Solutions



International Cooperation



JEVis Solutions



Envidatec Competences

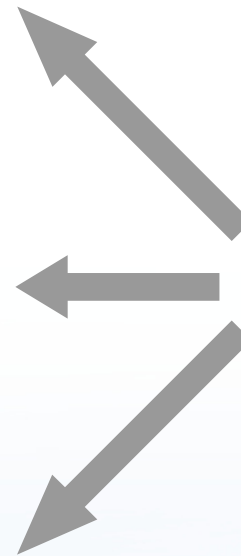
Holistic Approach

**Experience
since 2001**

Listed **consultants** at
GIZ, DEG, BAFA, KfW, LEEN,
EBRD

Staff Know-how:

Automation
Electrical & Energy Engineering
Process & Environmental Engineering
Energy Business

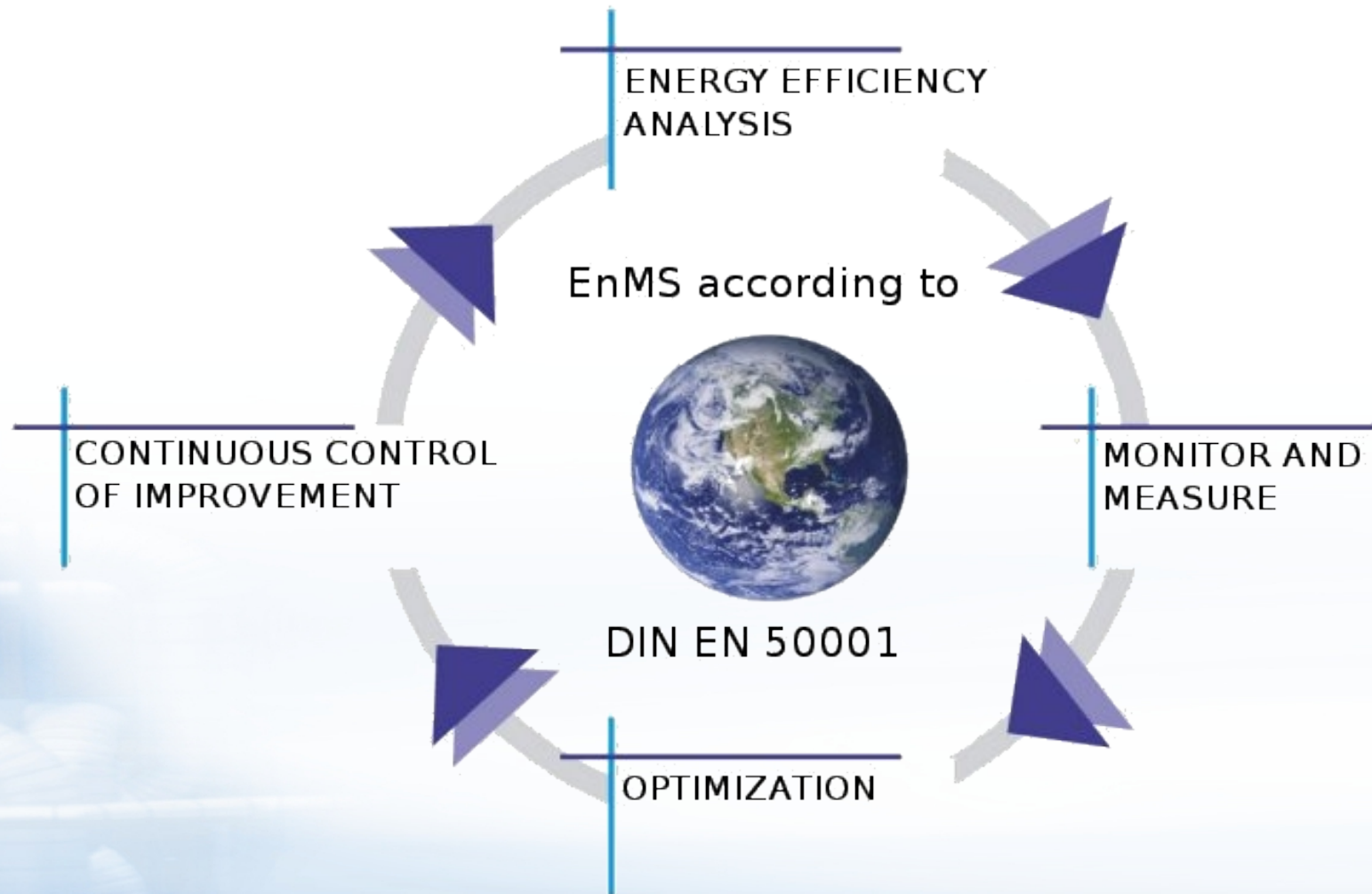


Core Competences of

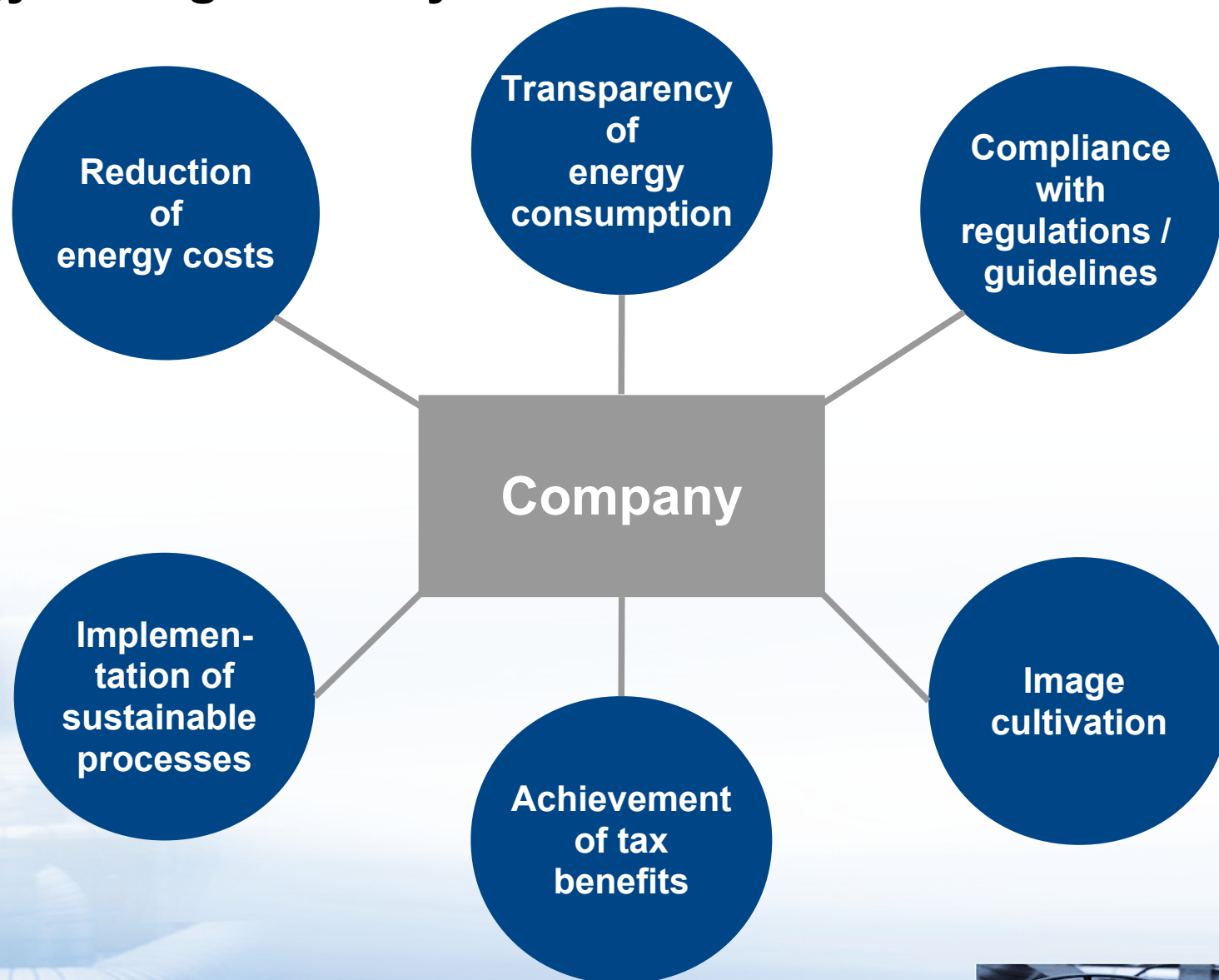
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Energy Management System ISO 50001

Energy Management System ISO 50001 - Continuous Improvement Process in Practice



Energy Management System ISO 50001 - Benefit



Services Concerning the Implementation of ISO 50001

Energy Management System ISO 50001

Diagnostic audit

Planning of all relevant functions

Support with the implementation of measures

Verification audit

Energy Efficiency Analysis

Investment plan for energy efficiency measures

Profitability analysis for energy efficiency measures

Energy Monitoring

Development of measuring point concepts

Implementation of system solutions (soft- and hardware)

Implementation of structures for energy controlling and reporting

Other Services

Trainings

Internal audit

Backing through the certification process

Basic
Services
EnMS

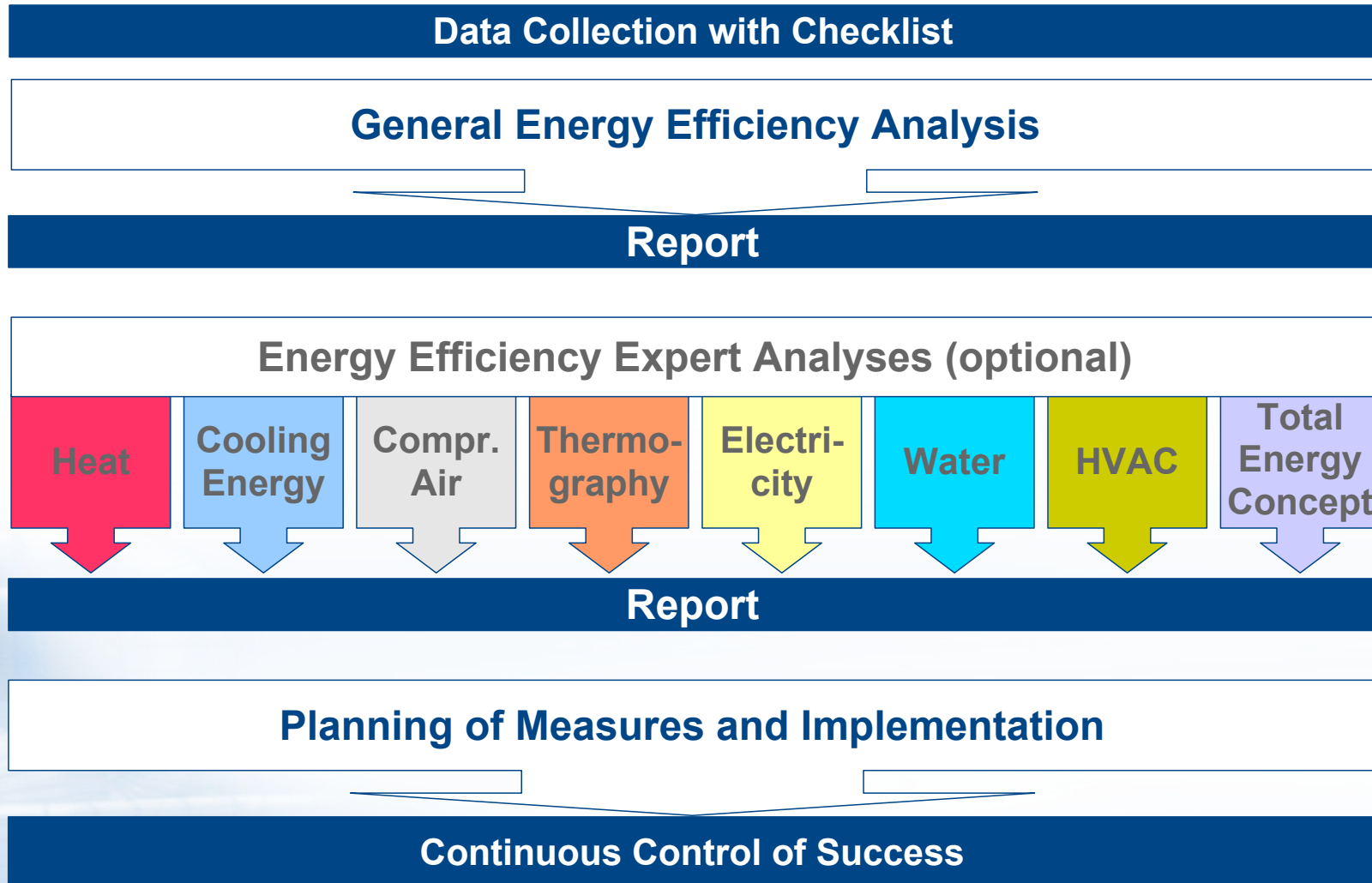
Additional Services
EnMS

Core Competences of

ENVIDATEC

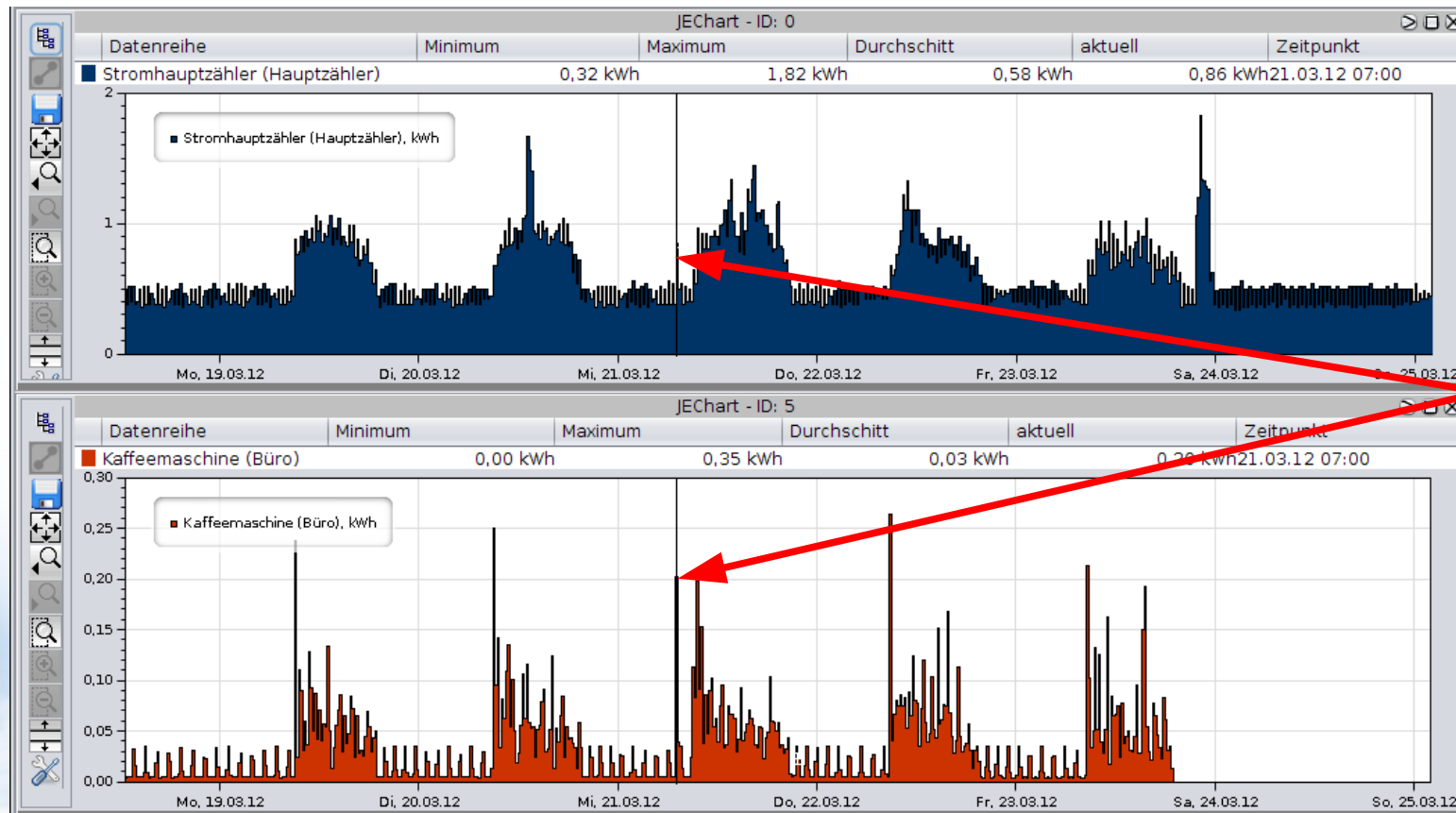
Energy Efficiency Analyses

Energy Efficiency Analyses according to DIN EN 16247-1



Measure Example 1: User Behavior for Coffee Machine

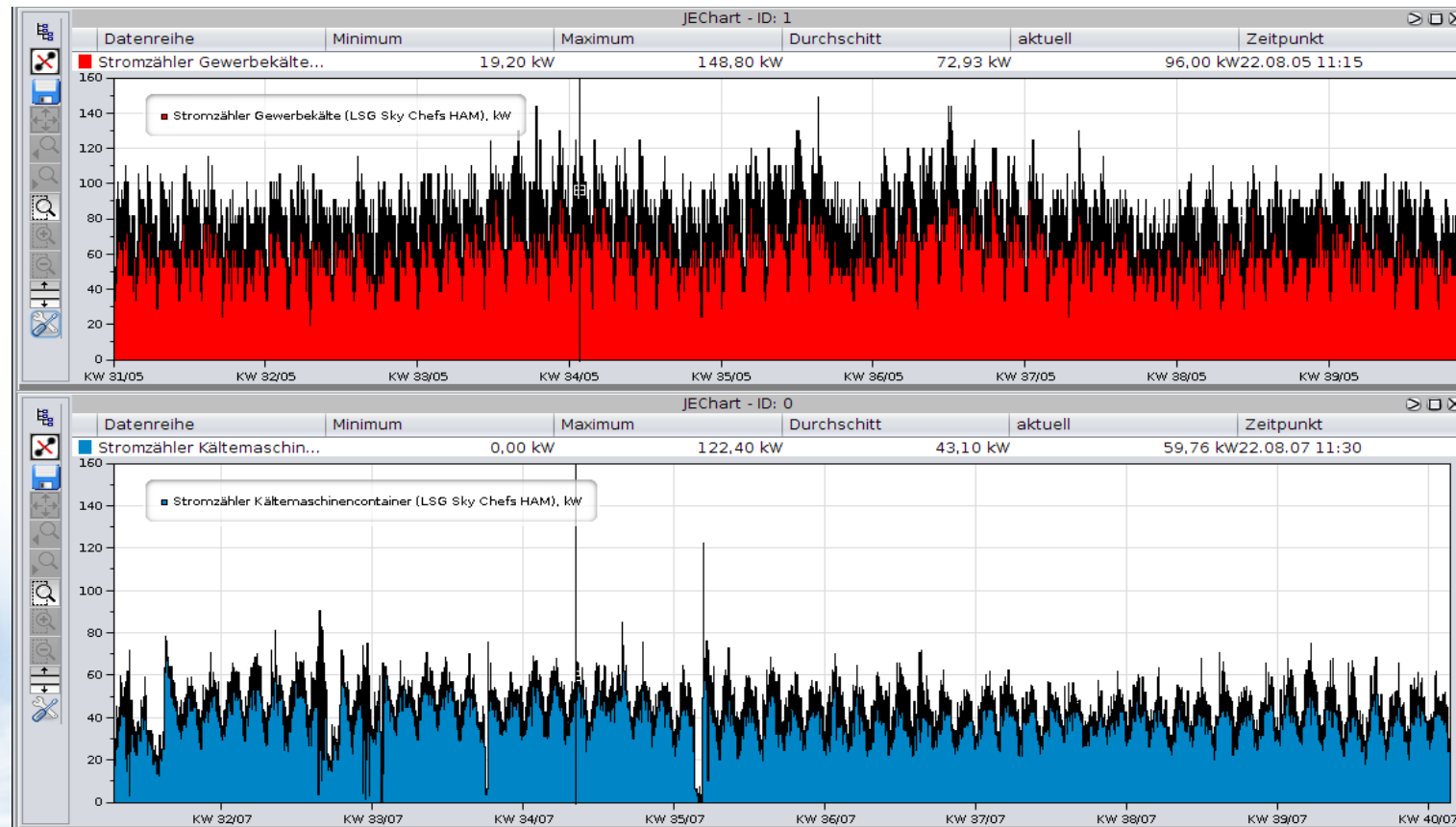
Power Consumption in Sum (standard week Mo. - So.)



Power Consumption Coffee Machine only (standard week Mo. - So.)

Measure Example 2: Optimized Chiller System

Power Consumption (old compressors changed to integrated facility)



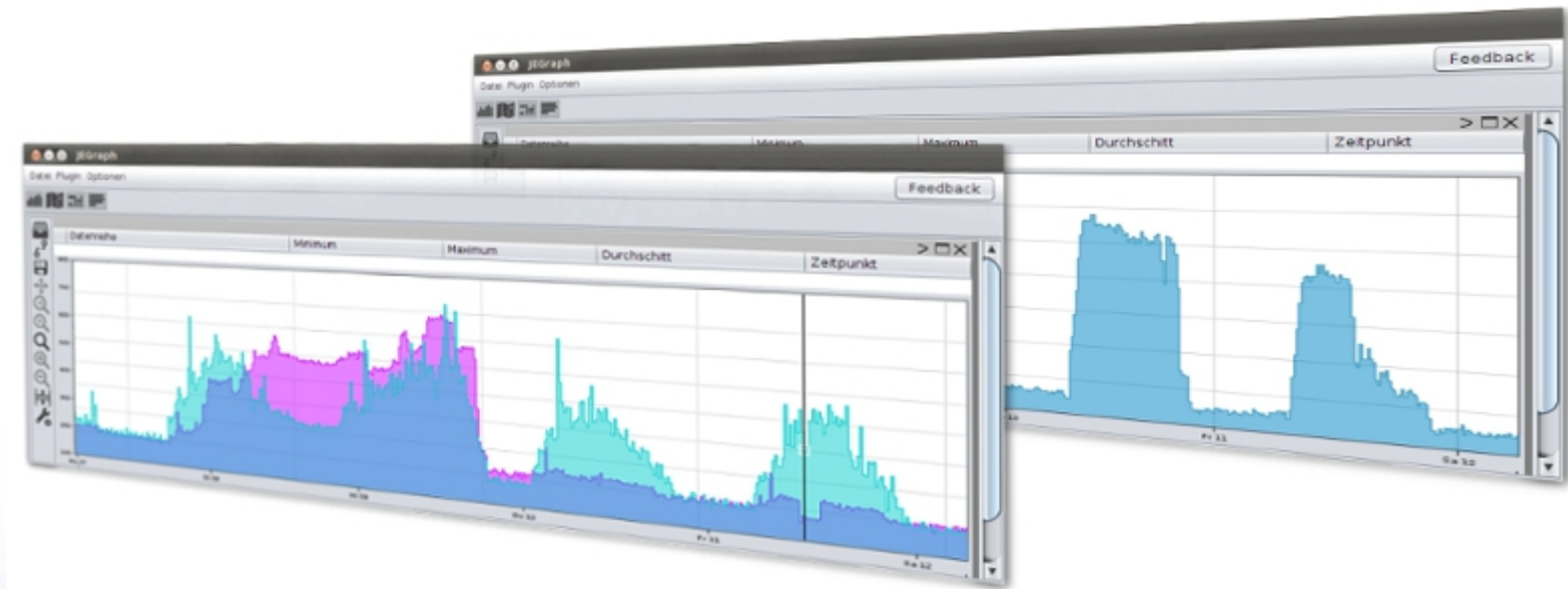
Savings: 193.000 kWh / year, equals to approximately 22.000 € / year

Core Competences of

ENVIDATEC

Energy Monitoring

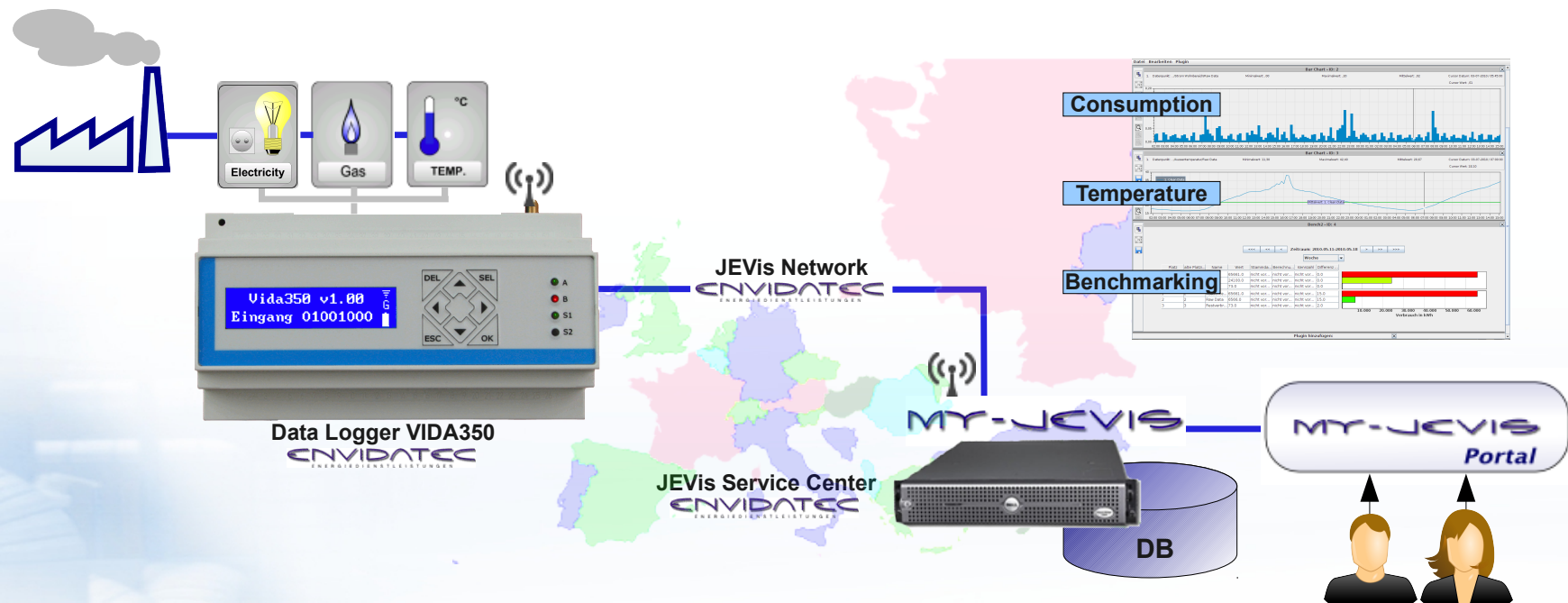
Energy Efficiency Requires Transparency

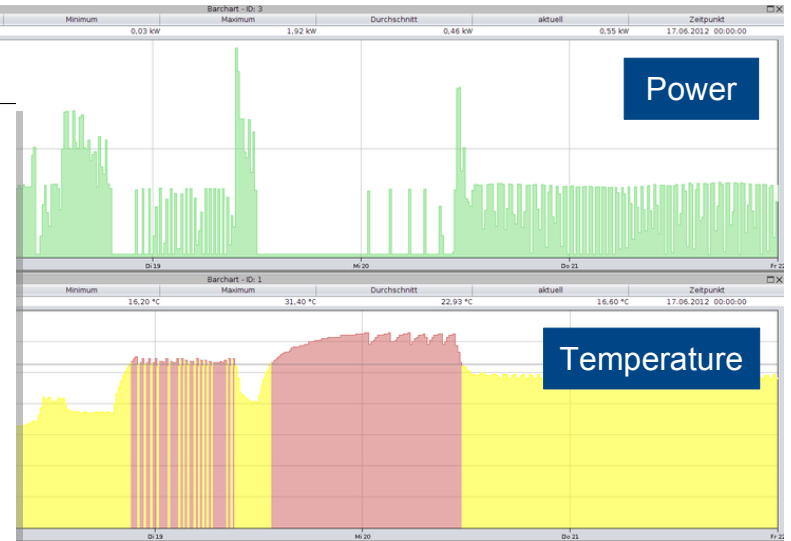


- Required for the evaluation of the energy baseline
- Basis for detecting savings potential
- Basis for investment decisions
- Instrument for control of success of applied measures

Energy Monitoring Solutions

- Available as hosting or in-house solution



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Report



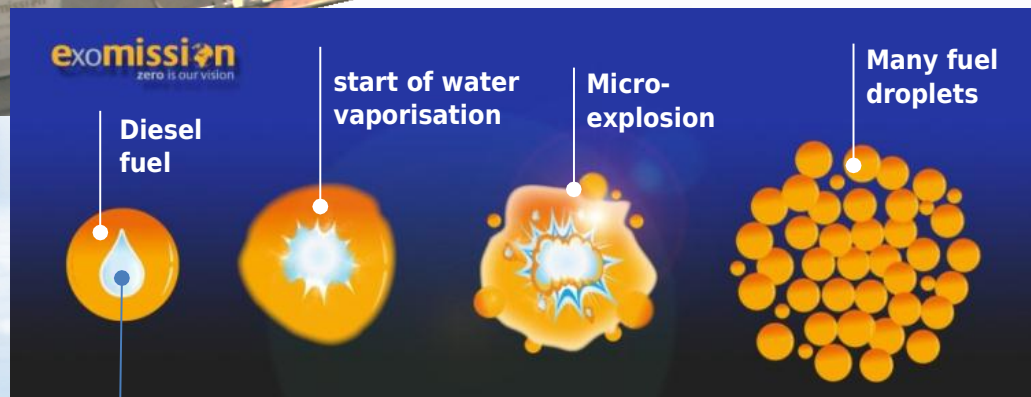
JEVis Environment Solutions – FWE



FWEgen3: Fuel Water Emulsion in the 3rd generation

Possible reductions rates of FWEgen3:

- Fuel consumption: 2 to 10%
 - Soot emission: 70 to 100%
 - NOx emission: 10 to 60%
 - HC and CO emissions: up to 85%
-
- Mostly used for island and autarcic systems, generatin Power, Heat or Cooling in combination (CHP, CCHP) and transport (ships, trains etc.)



Each water drop is completely surrounded by fuel

JEVis Environment Solutions – FWE for CHP

JEVis Monitoring provides constant control of operations:

- Improved transparency of process by data acquisition like fuel consumption or temperature
- Prompt discovery of deviation from stand operation
- Verification of compliance with environmental standards

Cogeneration Unit in Germany Deutz 1015

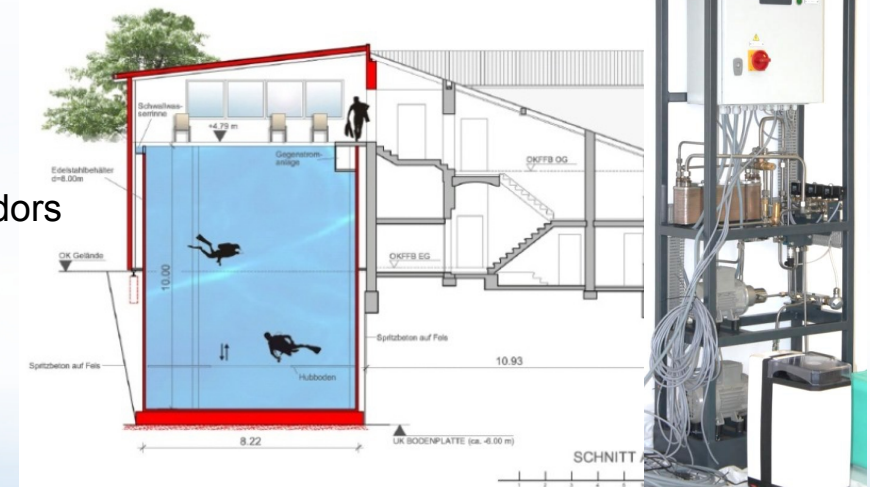
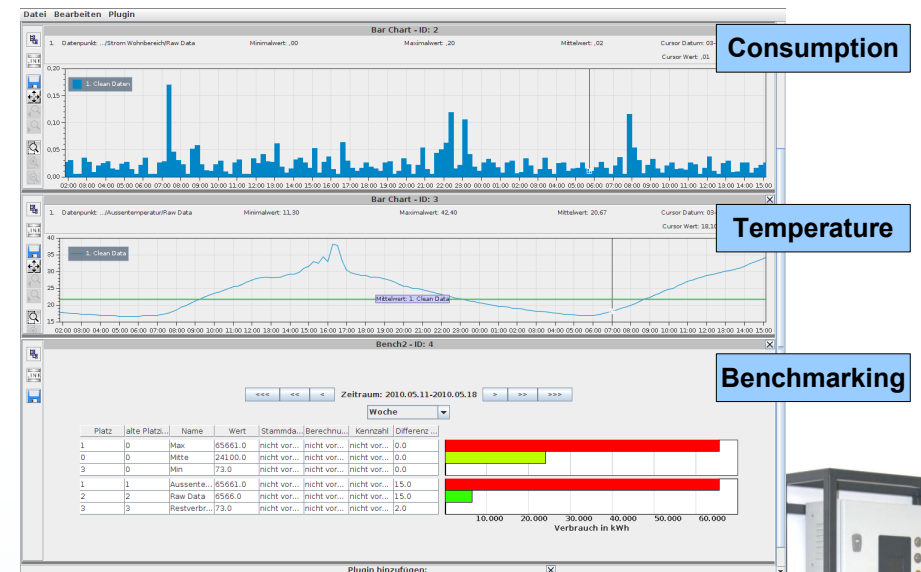
- 150 kW (el) used; max 225 kW
- Fuel: Palm Oil or Diesel Fuel
- 8.200 running hours p.a.
- No exhaust after-treatment system is installed

Before FWE installation

- Uneconomical operation due to high fuel costs
- Neighborhood complaints due to high soot emissions and odors

After FWE installation

- Fuel consumption reduction of about 5 to 10% (customer measurement)
- Soot reduction of about 85% / NOx reduction not measured



JEVis Environment Solutions – FWE mobile **exo**mission

zero is our vision

Installation of FWE in a new built vessel,
hazardous material tanker of the shipping
company Martin Deymann, Haren an der
Ems

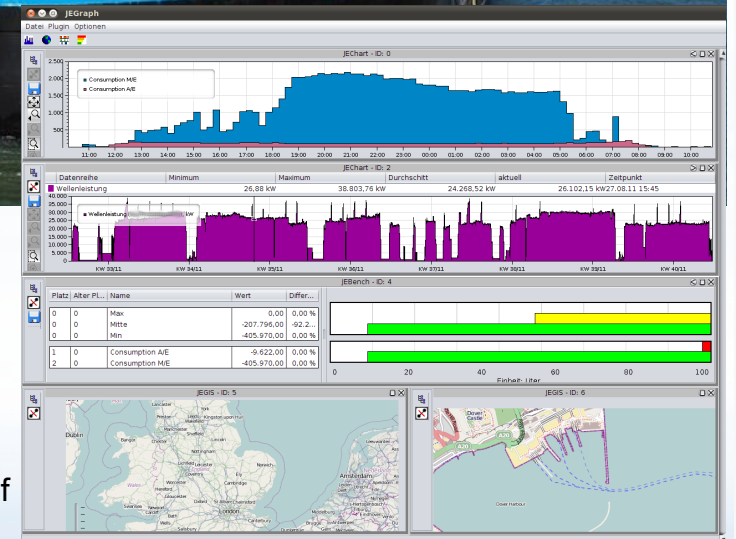
„TMS Rudolf Deymann“

Length/Width : 110 m by 11,45 m
Tonnage : 2.322 to.
Engine : Wärtsilä 6L20
Output : **1.599 hp**
Year of built : March 2013
Exhaust leg. : CCNR stage II

FWE in cooperation with shipping company
Deymann and engine manufacturer Wärtsilä
/ Finland / The Netherlands



- Integrated map view function
- Traceability of traveled routes
- Graphical presentation of Energy Performance Indicators
- Extendable illustration of energetic profiles
- Compatibility with existing Plug-Ins





Open Source Community

OpenJEVis Community

The screenshot shows the OpenJEVis website. The top navigation bar includes links for Home, My page, Projects, Administration, and Help. It also indicates the user is logged in as 'nils.heinrich@envidatec.com' with links for 'My account' and 'Sign out'. Below the navigation bar is a blue banner with the 'JEVIS OPEN' logo, a search bar, and the text 'www.OpenJEVis.org - The Open Data Storage and Monitoring Solution'. The main content area is titled 'Overview' and features a sidebar with links to Overview, Activity, Roadmap, Issues, New issue, Gantt, Calendar, News, Wiki, Files, and Settings. The main content area includes a 'New subproject' button, a 'The 3rd part of the OpenJEVis Days 2012 TODAY' announcement with a 'Join OpenJEVis Days' button, and a 'Members' list. The members list includes roles like Manager, Developer, Reporter, and Member, with names such as Borst Detlef, Bühler Markus, Frank Thomas, Heinrich Nils, Kiencke Björn, Pauls Arrien, Simon Florian, Armah Mario, Bakunov Roman, Bryan Maximilian, Bühler Markus, Kiconco Benitta, Konraedi Maximilian, Kychkin Aleksey, Mehonoshin Anton, Safyants Artyom, Salakhov Rinat, Smoliakov Nikita, Temichev Andrey, Yüksel Selcuk, Admin Redmine, Armah Mario, Bauer Philipp, Borst Detlef, Bryan Maximilian, Bühler Markus, Drzymalla Thomas, Frank Per Ole, Frank Thomas, Heinrich Nils, Kiconco Benitta, Kochetkova Elena, Konraedi Maximilian, Leal Sergio, Meisel Marcus, Naimi Farid, Pauls Arrien, Petrochenkov Anton, Remez Inna, Scheidt Dirk, Schuback Peer, Simon Florian, Volobuev Valery, Yüksel Selcuk, Клейменов Максим, Abulashvili George, Agnieszka Schirru, Akil Daniel, and Kuchukov Arman.

- Ongoing development and improvement due to large user community
- Communication platform for exchange within the community
- Direct feedback facilitates orientation towards current market needs
- Open data interfaces and standard APIs

OpenJEVis Community Partner



PUCP

Pontificia Universidad
Católica del Perú



DEUTSCH
KASACHISCHE
UNIVERSITÄT



ENVIDATEC

Envidatec GmbH



BODE

Bode Chemie GmbH



Energy
Efficient Cities
of Ukraine



Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG



National Technical University
of Ukraine



Hochschule für Angewandte Wissenschaften Hamburg
Hamburg University of Applied Sciences

HAW Hamburg



Donetsk National
Technical
University



Ural Federal
University



PSTU Perm



TU Wien



Austrian Institute
of Technology
GmbH



Worlée Chemie GmbH



NSB Niederelbe Schifffahrtsgesellschaft mbH & Co. KG



Lodz University
of Technology



Eurasian National
University



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OOO Envidatec Ost

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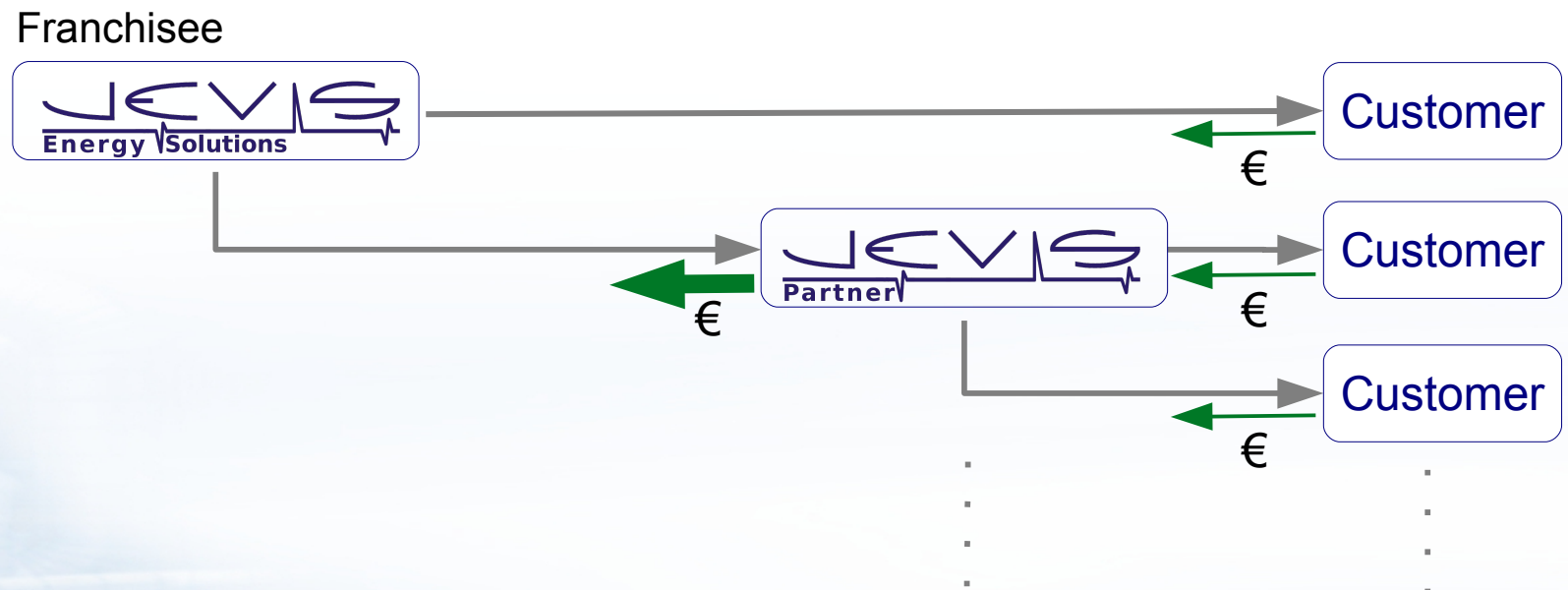
Partner and Franchise Concept

Franchising Concept



JEVIS Franchisee, Partner and Customers

- Sustainable business worldwide
- Trustful cooperation
- Worldwide support



JEVis Energy Solutions Worldwide



1 Hamburg

2 Perm

3 Vienna

4 Kiev

5 Jeddah

6 Lima

7 Santiago de Chile

8 Shanghai

9 Hanoi

10 Bangkok





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