This reference list shows most of the industrial and offshore projects in which PDE was involved over the last 16 years. In some cases PDE was directly contracted by the end user, in most cases the contract was awarded by engineering companies or main contractors.

2014 - 2015  **Project:** New York Wheel (USA)
Client: Starneth Europe
Development of the HVAC systems of the capsules, electrical rooms and A-frame of the new to be built Ferris wheel in New York.

2015  **Project:** LIWA Plastics Project (Oman)
Client: CB&I
Utility consumption list for more than 60 plant buildings.

2015  **Project:** Counter expertise (Netherlands)
Client: Eco2
Counter expertise in a dispute regarding energy consumption in a controlled atmosphere project.

2015  **Project:** Ain Tsila Development (Algeria)
Client: CB&I
HVAC FEED comprising heating and cooling load calculations for more than 50 plant buildings including PFD’s for more than 10 buildings.

2014  **Project:** SAT HVAC Switchgear Rooms (Netherlands)
Client: Momentive
Site Acceptance Test of HVAC equipment serving a Switchgear Room and VSD Room.

2014 - 2015  **Project:** Statoil - Aasta Hansteen – System Control Diagrams (Norway)
Client: CKT Projects
Development of the System Control Diagrams for the HVAC systems for the Aasta Hansteen SPAR platform’s Living Quarter (NORSOK Standard I-005).

2013 - 2014  **Project:** Dubai Eye (UAE)
Client: Starneth
Development of the HVAC systems of the capsules of the new to be built Ferris wheel in Dubai.

2013 - 2014  **Project:** P&G - HVAC Global Guidance
Client: Fluor Engineering NV - Antwerp
Development of procedures for standardization of HVAC systems for P&G plant buildings all around the world.

2013  **Project:** IBR - New Control Building (Belgium)
Client: Fluor Engineering NV - Antwerp
Basic design for the HVAC systems of a new control building for the refinery.

2013  **Project:** Statoil - CAT I Arctic drillship (Norway)
Client: GustoMSC
HVAC feasibility studies for development of the CAT I drillship for the Statoil Arctic Step-up program.

2013 - 2015  **Project:** Statoil - Aasta Hansteen SPAR platform (Norway)
Client: CB&I
Detailed engineering support for the HVAC systems of the Utility Area and Hull of the Aasta Hansteen SPAR platform of Statoil.

2011 - 2013  **Project:** Statoil - CAT J Jack-up Drilling platform (Norway)
Client: GustoMSC
HVAC FEED package for a Statoil CAT J Jack-up drilling platform including development of reusing waste energy and heat recovery systems.

2012 - 2013  **Project:** EPC - Modification of HVAC for Drum Dryer Hall (Belgium)
Client: Puratos Beldem
Main EPC contractor for modification of the HVAC systems and installation of support platforms for the Drum Dryer Halls of Puratos Beldem (Food industry).
2012 - 2013  Project: BASF – Plant Buildings (Germany)
Client: Fluor - Haarlem
Basic design and management support for the integrated HVAC installations for a Phosgene Building and a Compressor Building.

2012  Project: Statoil - Aasta Hansteen SPAR platform (Norway)
Client: CB&I
HVAC FEED package for all the HVAC systems of the Aasta Hansteen SPAR platform of Statoil including the Living Quarter, Utility Area and Hull.

2011 - 2012  Project: Statoil - Valemon Living Quarter (Norway)
Client: Hertel Offshore
HVAC control philosophy, HVAC control system architecture and System Control Diagrams (SCD’s) for the Living quarter of the Valemon platform (NORSOK standard).

2011 - 2013  Project: Momentive (Netherlands)
Client: Fluor - Rotterdam
Inquiry specifications, procurement assistance, construction support and testing for revamp of the HVAC installations and chiller plant of the central control building and plant laboratory.

2011 - 2012  Project: SAPCO - Super Absorbent Polymer Plant (Saudi Arabia)
Client: Fluor - Haarlem
Construction and design support for the HVAC systems for a super absorbent polymer plant in Al-Jubail, Saudi Arabia, including the fully enclosed plant, substation and control building. PDE received a Fluor Silver Award for HVAC Engineering and Design Effort on this project.

2011  Project: ROAD CO2 storage (Netherlands)
Client: Fluor - Haarlem
HVAC FEED package and procurement support for the Control Building and the Compressor Building.

2011  Project: ONGC - B-193 Process Platform (India)
Client: Hertel Offshore
HVAC Control Philosophy, Specifications and listings for the HVAC Control Panel and HVAC MCC’s for an offshore LQ Module including Control Room and Auxiliary Rooms. PDE was also involved in vendor document review and FAT testing of the control panels.

2010  Project: Cocono Philips - Jack-up accommodation (Norway)
Client: Hertel Offshore
Pressure loss and noise calculations for the HVAC systems of the accommodation on the Ekofisk Complex.

2010 - 2011  Project: Gassco (Germany)
Client: CB&I
HVAC Specifications, D&ID’s, Basic HVAC calculations, MTO’s and Budget Estimates for refurbishment of existing plant buildings and construction of new plant buildings (FEED package for 17 buildings).

2009  Project: Staatsolie (Suriname)
Client: CB&I
HVAC Specifications for various plant buildings.

2009 - 2010  Project: Essent - Electrical power plant (Netherlands)
Client: CB&I
HVAC Specifications and vendor document review for Demin Water Building. Studies and detailed calculations for extension of existing control room and Auxiliary rooms.

2009  Project: Shell - HDS-6 (Netherlands)
Client: CB&I
HVAC Specifications and D&ID’s for Substation and Field Auxiliary Rooms.
2009

**Project:** Gaz de France (Netherlands)

Client: Hertel Offshore

Noise level calculations for the Living Quarters E17a-A and G17d-A ALQ Extension.

**Project:** Talisman (Emirates)

Client: Hertel Offshore / SBM Offshore

Detailed engineering and construction support for a HVAC installation for a 55 persons accommodation with helicopter deck and utility rooms in the hull (E&I rooms, transformer rooms, generator rooms, etc.), including the HVAC Control panels, HVAC MCC’s, HMI’s and integration with platform safety systems. All engineering according to NORSOK regulations.

2008 - 2010

**Project:** Nuon - Power Plant (Netherlands)

Client: CB&I


**Project:** Cuddalore Refinery (India)

Client: CB&I

HVAC Specifications and Vendor document review for Switch houses, Field Auxiliary Rooms, Compressor Buildings and Control Buildings.

2008

**Project:** Höegh FPSO

Client: CB&I

Feed study for cooling Local Equipment Rooms and air conditioning of workshops, all located in a hazardous area.

**Project:** Prosafe - Regalia (Canada)

Client: Hertel Offshore

Detailed design and Vendor document review for new and existing Living Quarters for a 285 man accommodation. All design and review according to NORSOK regulations.

2008 - 2009

**Project:** Shell Brunei (Malaysia)

Client: Hertel Offshore

Basic design and budget estimate for the Champion 7 Living Quarter Project.

2007

**Project:** Bongkot Field Development Project (Thailand)

Budget estimate HVAC installation combined Living quarter / Utility module (8 floors)

**Project:** Gaz de France (Netherlands)

Client: Hertel Offshore

Feasibility study for extension of Living Quarters with existing HVAC equipment.

**Project:** Sasref (Saudi Arabia)

Client: CB&I

Basic engineering, Project specifications and Vendor document review for the HVAC installations for Substations and Field Auxiliary rooms.

2007

**Project:** ECC (Singapore)

Client: CB&I

Basic engineering, Project specifications and Vendor document review for the HVAC installations for Substations, Field Auxiliary Rooms and compressor buildings.

**Project:** Veba Oil (Libya)

Client: CB&I

Basic and Detailed engineering for the chiller plant and air handling units of a chlorination building in the Libyan desert.

2006 - 2007

**Project:** L&T ONGC (India)

Client: CKT (presently Hertel Offshore)

Detailed engineering, Vendor document review and equipment inspections for a Building Module, containing Control rooms, Switchgear rooms and E&I rooms. The engineering of the HVAC Control panels including HMI’s were also part of the engineering scope. Special feature: custom made Zone 1 Chiller.
<table>
<thead>
<tr>
<th>Year</th>
<th>Project</th>
<th>Client</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td><strong>Project:</strong> KINEF Hydrocracker Complex <em>(Russia)</em></td>
<td>ABB Lummus (presently CB&amp;I)</td>
<td>Presentation at location for subcontractors on integration of plant F&amp;G and DCS systems with the HVAC (control) systems.</td>
</tr>
<tr>
<td>2004</td>
<td><strong>Project:</strong> Sakhalin Molikpaq Tie In <em>(Russia)</em></td>
<td>ABB Lummus (presently CB&amp;I)</td>
<td>HVAC studies, review of vendor documentation, FAT HVAC Control panels, etc. for the HVAC installation of the process modules.</td>
</tr>
<tr>
<td>2003</td>
<td><strong>Project:</strong> Laboratory relocation <em>(Netherlands)</em></td>
<td>NMI</td>
<td>Project management and detailed engineering for relocation of the calibration installations of the Van Swinden laboratories from Dordrecht to Delft.</td>
</tr>
<tr>
<td>2003</td>
<td><strong>Project:</strong> Performance study</td>
<td>Ministry of Justice</td>
<td>Study on the performance of combined heat and power installations for several jail houses.</td>
</tr>
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<td>2003</td>
<td><strong>Project:</strong> Laboratory relocation <em>(Netherlands)</em></td>
<td>NMI</td>
<td>Feed study for relocation of the Van Swinden Laboratories from Dordrecht to Delft.</td>
</tr>
<tr>
<td>2002</td>
<td><strong>Project:</strong> Floating shopping mall <em>(UK - London)</em></td>
<td>Vageri E&amp;I</td>
<td>Feed study for the HVAC installations of a floating shopping mall in the Thames in London.</td>
</tr>
<tr>
<td>2002</td>
<td><strong>Project:</strong> REST <em>(Netherlands – Maasvlakte)</em></td>
<td>Roteb / Eco2 / ECT</td>
<td>Basis engineering, detailed engineering, construction management and commissioning of the degassing and HVAC installations for the de-fumigation plant for sea containers.</td>
</tr>
<tr>
<td>2001</td>
<td><strong>Project:</strong> Ministry of Transport, Public Works and Water management <em>(Netherlands)</em></td>
<td>Kemkens</td>
<td>Interim management of the “Building control and automation” department and project management for the HVAC control systems for the HVAC installations.</td>
</tr>
<tr>
<td>2000</td>
<td><strong>Project:</strong> REST <em>(Netherlands)</em></td>
<td>Roteb / Eco2</td>
<td>Feed study for a de-fumigation terminal for degassing sea containers including preparation of governmental permits.</td>
</tr>
<tr>
<td>2000</td>
<td><strong>Project:</strong> De Zuidhoek <em>(Netherlands)</em></td>
<td>DuBourgraaf</td>
<td>Basic and detailed design of the chilled water plant, chilled water distribution, cooling equipment and HVAC control panels for renovation of the workshops and offices of the Zuidhoek.</td>
</tr>
<tr>
<td>2000</td>
<td><strong>Project:</strong> KPN Datacenter <em>(Netherlands)</em></td>
<td>Vageri E&amp;I</td>
<td>Lead engineer for design and construction of control and power panels for a cooling plant for a telephone datacenter (KPN).</td>
</tr>
</tbody>
</table>