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# Full control and full automation

BOT ELEKTROWNIA OPOLE S.A. POWER PLANT IS LOCATED 9 KILOMETRES NORTH FROM THE CITY OF OPOLE, DOWNSTREAM OF THE MALA PANEW RIVER WHICH FLOWS INTO THE ODRA RIVER. THE EXISTING AND PLANNED PRODUCTION FACILITIES COVER APPROXIMATELY 290 HECTARES. THIS LOCATION ENSURES GOOD OPPORTUNITIES FOR PROVIDING THE POWER SUPPLY TO THE SOUTH-WESTERN AREA OF POLAND AS WELL AS THE TRANSFER OF ENERGY TO OTHER PARTS OF THE COUNTRY AND ABROAD.

At present, BOT Elektrownia Opole S.A. power plant runs four hard-coal fired energy power generating units (of the six planned originally). The Opole power plant was the last significant investment of the Polish power engineering industry. Its generating units were commissioned during the years 1993-1997. As the construction of the generating units progressed, the Opole power plant was equipped with the environment protection equipment and now meets all national and EU environment legislation and does not need to spend significant money to keep pace with tightening engine-emission standards.

Equipped with four generating blocks, BOT Elektrownia Opole S.A. is the most modern hard coal fuelled power station in Poland. The overall installed capacity is equal to 1492 MW (1x376 MW; 1x373 MW; 1x373 MW; 1x370 MW) and achieved capacity reaches 1532 MW. Coal is the main fuel. BOT Elektrownia Opole S.A. holds ISO certificate 14001 for Environmental Management Systems, SA certificate 8000 for social responsibility and three certificates for Health and safety (OHSAS 18001; PN-N 18001; level 7 of the International Safety Rating System ISRS, pursuant to the OES area examination techniques).

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**TOPIC:**

The most modern hard coal fuelled power station in Poland relies on the Grundfos CIU 150 – the perfect communication interface for Profibus

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**LOCATION:**

Poland

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**COMPANY:**

BOT Elektrownia Opole S.A. power plant

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## THE SITUATION AND THE GRUNDFOS SOLUTION

The CIM/CIU 150 is a standard interface for data transmission between Profibus DP network and a Grundfos pump or controller. It makes data exchange possible between Grundfos pumping systems and a PLC or SCADA system.

BOT Elektrownia Opole S.A. power plant has an existing installation of several Grundfos CRNE multistage pumps (delivering solution water and urea which is sprayed through nozzles into the power plant's chimney).

The current system contains:

10 CRNE 1-23 (product no. 96570982)

2 CRNE 5-29 (product no. 96518538)

In the power plant these pumps should be controlled by the main process control system Teleperm (Siemens). The complete pump system was delivered and installed by an external Swedish company using a local Polish contractor. The existing data transmission used Profibus protocol, but the existing system was delivered without CIM/CIU modules.

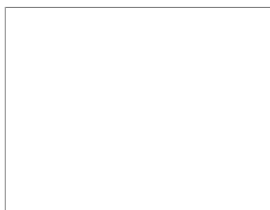
Grundfos Poland offered the perfect solution: Grundfos CIM/CIU. For Grundfos CIM/CIU 150 modules no custom programming is needed to integrate them in a Profibus network. The system integration is very straight-forward. Now the new add-on-equipment includes Grundfos CIU modules and a Siemens PLC system, which provides full control of pumps and S7 300.

## THE OUTCOME

BOT Elektrownia Opole S.A. power plant is very satisfied because all Grundfos pumps and the new control solution have performed very well. Now local technicians can control and monitor all connected pumps via CIM 150. And these pumps are very critical ones: If they stop running and the NOx concentration reaches a too high level the control system will immediately stop the complete power block.

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## Related Products



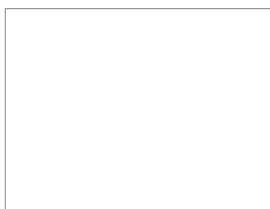
### CIM/CIU FIELDBUS - CONTROL OF PUMPS AND PUMP SYSTEMS

The CIM and CIU enable the connection of Grundfos electronic products to standard fieldbus networks.



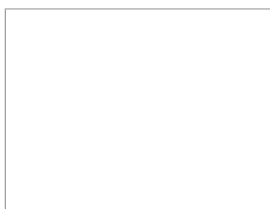
### TPE3, TPE2 INLINE CIRCULATOR PUMP - HEATING, COOLING AND DISTRICT ENERGY

The new TPE3 is packed with a wide range of intelligent pump features and optimized technology making it to a highly efficient In-line pump.



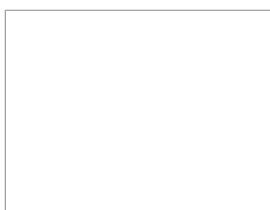
### NK, NKG, NKE, NKGE END-SUCTION LONG-COUPLED PUMPS

Grundfos offers a virtually limitless range of long-coupled (NK) end-suction pumps



### HYDRO MULTI-E - PRESSURE BOOSTING BUILDING SERVICE APPLICATIONS

An innovative pressure booster system specially designed for building service applications.



### HYDRO MPC - PRESSURE BOOSTING BUILDING SERVICE APPLICATIONS

The Grundfos Hydro MPC booster systems are made to the very highest standards. Thanks to the CU 352 controller, they handle even the most difficult boosting jobs with ease and accuracy.