The Digital Oilfield Solutions business unit offers services to the Upstream industry. Solutions typically encompass a combination of real-time data, integrated production models and custom visualization components in support of production surveillance, allocation, optimization and forecasting business processes.

IPCOS is an APC services provider, delivering domain specific APC and PID control services to the gas processing, refining, (petro-)chemicals and fertilizer industries, with a capability to offer control technology. By combining specific industry experience with best practice control knowledge, IPCOS provides sustained and guaranteed benefits from control solutions.

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Services and People

The success of IPCOS’s business relies entirely on our people that deliver the Services, with specialised knowledge and expertise gained through decades of experience.

Our Consultants can help you achieve:

- Increased Production output
- Reductions in energy consumption
- Increased plant availability

Our people are able to do this by improving plant stability and implementing Advanced Process Control technologies to optimize and control the plant to new levels. IPCOS has the experts that enable your business to achieve new levels of “Operational Excellence”.

IPCOS’ SERVICE OFFERING

- APC benefit studies
- Instrumentation recommendations
- PID Tuning
- DCS reconfiguration work
- Inferential modeling
- Turnkey APC projects
- PID and APC training services
- Post audit studies
- APC controller revamp projects
- Project management

“Due to this APC project the SO2 emissions went down by 12%”

Technical Manager GASCO

“Set points achieved faster and with ease”

The tuning pressure (top) and outlet temperature (bottom) resulted in a production increase of 3%.

Support

IPCOS has a vast range of consultants on hand to help guide you through the process and provide the back up you need. This application support is included with the maintenance fee for the software.

“‘The payback actually started during the initial phase of the project when we had to revise and reconsider the complete control and operating strategy of the plant. Now, with the APC system in operation, production is stable at record-high levels.’”

Ammonia Production Manager Yara

INDUSTRY EXPERTISE

GAS PROCESSING

REFINING

(PETRO-) CHEMICALS

FERTILIZERS

SUPPORTED APC TECHNOLOGIES

- DMCplus®
- SMOC®, Exasmoc®
- RMPCT®, ProfitSuite®
- Connoisseur®
- INCA MPC

HISTOGRAM OF THE DAILY PRODUCTION OVER A PERIOD OF TIME (LEFT NO APC, RIGHT WITH APC) RESULTING IN A PRODUCTION INCREASE OF 3%
Why IPCOS?
We guarantee the return on investment
Our clients consider us their trusted advisors
Our APC engineers are familiar with many APC technologies
Due to our best practice methodology we deliver sustainable benefits for all our projects

PID Tuning Products

Set points achieved faster and with ease
Tuning the PIDs in the base layer control system is a vital maintenance task for the plant Engineer. To do this effectively can be very time consuming with interacting loops making the task even more complex.

Support
IPCOS has a vast range of consultants on hand to help guide you through the process and provide the back up you need. This application support is included with the maintenance fee for the software.

**inca PID Tuner**
- Easy to use for single loops
- Can connect to any DCS/PLC via OPC
- Tune based on engineering specifications, e.g., optimal setpoint tracking or disturbance rejection
- Includes tuning constraints, e.g., maximum overshoot, minimum robustness...
- Robustness check

**inca Aptitune**
- Tackle multiple, interacting PID tuning problem with ease
- Connect directly to the DCS or PLC via OPC
- Carry out robustness checks of PID tuning prior to implementation
- One-shot tuning of all loops
- Simulate different tuning options before implementation

"I use AptiTune on a weekly basis. The fact that a single tool encompasses real-time data collection, identification and PID tuning makes AptiTune easy to get familiarized with. AptiTune leads to results that are accurate enough to allow me entering the optimized tuning parameters without additional safety margin. And in the vast majority of cases the new tuning will be valid for ever unless the process changes drastically."

APC engineer, TOTAL Refining and Chemicals
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Digital oil fields in the oil and gas exploration and production industry is a concept that has become a reality during the past decade.

Oil fields have become more and more challenging to produce, highlighting the need for top-end surveillance, allocation, optimization and forecasting systems in order to maximize recovery over the full lifespan of the field.

One important component for maximizing the recovery is the implementation of real-time data processing systems, along with integrated and advanced models to support the various business processes.

IPCOS Digital Oil Field Solutions

IPCOS Digital Oil Field Solutions is the upstream-focused entity of IPCOS, delivering solutions for the application of model-based digital oilfield solutions.

IPCOS can help companies design and implement digital oil field solutions. This ranges from providing advice on which tools to use, designing full end to end digital oil field solutions to implementing and training existing solutions and finally providing application support or handing over to a dedicated support team.

On top of the strong know how in open market products, IPCOS has a strong experience and track record in custom digital oilfield solution development, which allows offering deep and efficient customization of the standard tools used in the industry. This includes the development and support of custom workflows, visualization interfaces and custom data integration systems.
IPCOS Expertise

IPCOS has extensive experience with the configuration, deployment and utilization of the most widespread **model-based solutions** for digital oil fields.

IPCOS is technology independent and specializes in customization and integration of technologies selected by our customers. Most digital oil field solutions consist of a combination of modeling, database and data integration and visualization and reporting technologies. The table below lists the technologies in which IPCOS has gained most of its experience:

<table>
<thead>
<tr>
<th>Modelling</th>
<th>Data / Integration</th>
<th>Visualisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPM Suite</td>
<td>PI / AF</td>
<td>PI Process Book</td>
</tr>
<tr>
<td>IFM</td>
<td>XHQ</td>
<td>IVM</td>
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<tr>
<td>Unisim</td>
<td>SQL Server</td>
<td>SharePoint</td>
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<tr>
<td>Hysys</td>
<td>Oracle</td>
<td>XHQ</td>
</tr>
<tr>
<td>Matlab</td>
<td>OPC</td>
<td>ASP.Net</td>
</tr>
</tbody>
</table>

IPCOS Your End-To-End Partner

The experience gained throughout the years allows IPCOS to support the implementation of Digital Oil Field solutions from the early project phase, such as specification and tool selection, to the project hand-over, when the integrated solution is fully operational.

Consultancy → Design & Development → Implementation → Support

Consultancy: Strategy, Tooling, Architecture
Design & Development: Prototyping, Development, Productization
Implementation: Deployment, Integration, Training
Support: Maintenance, Tech. Support

ABOUT IPCOS
IPCOS provides high-end automation and optimization services for E&P and process industries. We have particular expertise in providing solutions for the oil & gas, LNG, refining, and (petro-)chemical production industries. Our solutions range from advanced PID tuning packages, soft sensors, fully integrated production models to dynamic online optimizers.

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