



# RUGGEDISED DEVICES & PROCESS AUTOMATION IN OIL & GAS INDUSTRY

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# BUSINESS PROCESS AUTOMATION IN OIL AND GAS INDUSTRY



The abrupt drop in oil prices has forced companies to think about the options of cutting operational costs. Costs that were rational at a price of \$100 per barrel of oil now require reassessment. In this situation, companies are striving to improve their asset sustainability and achieve maximum productiveness from employees.

Ergon Energy in Queensland demonstrated productivity uplifts of over 45 minutes per field worker per day. Refer to Ergon Energy case study for more information go to <http://www.panasonic.com/au/business/casestudies/latest/mobility-solutions>

Panasonic research below shows that investing in process automation and developing mobile IT infrastructure raises the productiveness of companies and ensures a short payback period, even in times of crisis.

Panasonic Europe has conducted comprehensive research to find out what the demand for rugged mobile devices is among energy companies, to see existing and potential scenarios for the expansion of mobile equipment, and to specify the main requirements for such devices.

The first part of the research was an on-line poll administered together with Information Agency Neftegaz.ru, Ltd. The poll was conducted on the Internet site of the organization: [www.neftegaz.ru](http://www.neftegaz.ru) which is visited daily by 14,000 experts from fuel and energy companies\*.

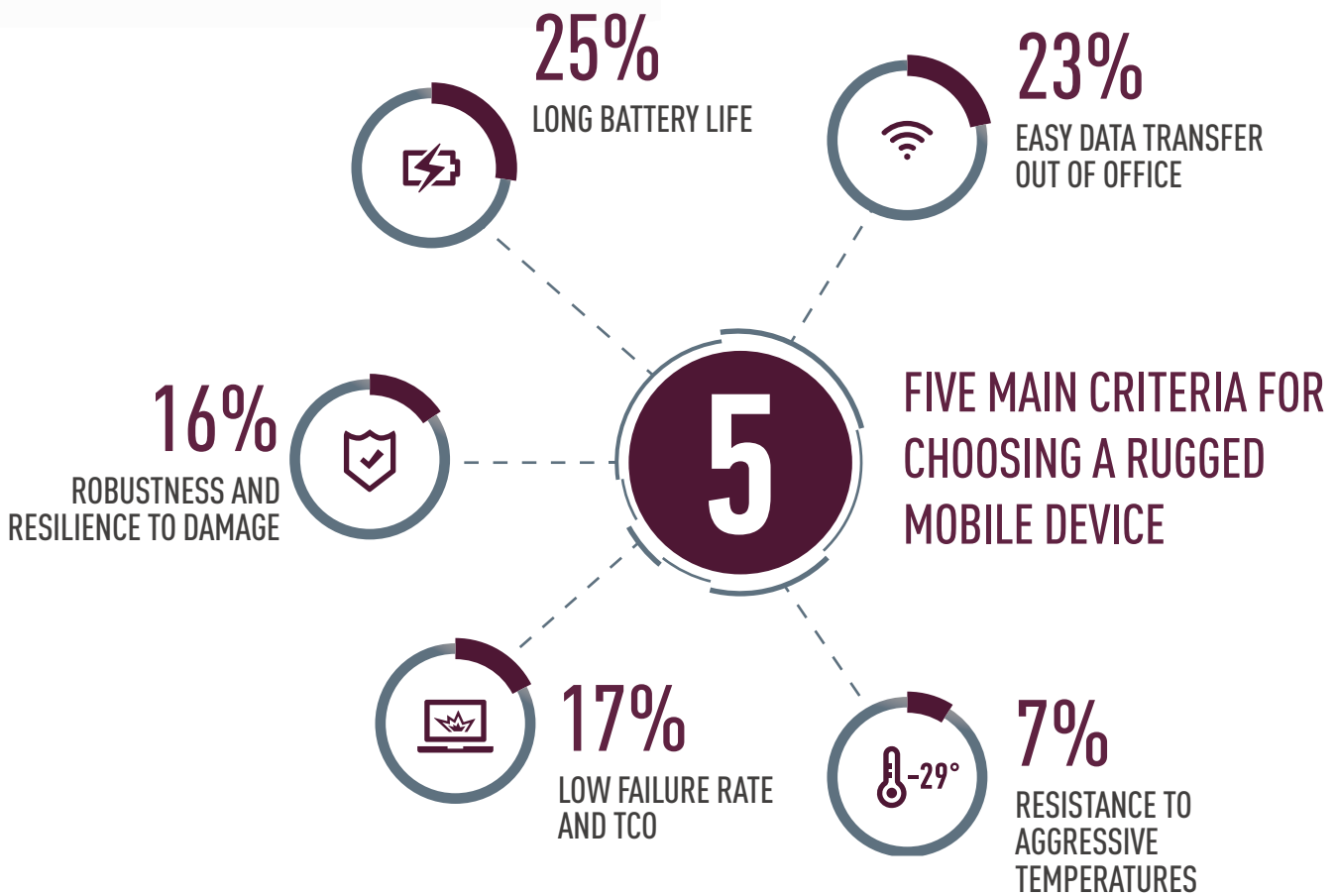
For two weeks, site visitors could participate in the on-line poll initiated by Panasonic Europe. The aim of the poll was to find out the priority properties considered when choosing a rugged mobile device for application in this industry. The organisations had to choose three of the seven possible answers. Two hundred and thirty eight organisations participated in the poll.\*

\*According to the data of Neftegaz.ru, the participants included top-level managers, representatives of procurement and sales departments, oil and gas equipment suppliers and manufacturers, engineers and finance advisors, marketing experts, and the employees of drilling, oil production, oil processing, service and other companies.



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Oil and Gas companies use five main criteria for selecting rugged mobile devices. They are:

a long battery life cycle (25%); Internet access and fast data transfer outside the office (23%); low failure rate and operational expenses (17%); protection against exposure to water, dust, chemical substances, impacts, vibration (16%); and the ability to work at extremely high/low temperatures (7%).

“The remarkable fact is that protection against environmental factors is not the main criterion for tablet or notebook selection. The prevailing properties are battery capacity and fast data transfer when in the field”, comments Oleg Gaydaenko, head of PC Department Panasonic Russia.

Panasonic Corporation uses its own designed batteries for Toughbook Notebooks and Toughpad Tablets product line-up, and the devices allow hot swapping of the batteries.

**THE MAXIMUM BATTERY LIFE CYCLE IS 18 HOURS**

It is important to know that the low failure rate and low operational expenses have turned out to be the third most popular criterion. Panasonic offers a standard three-year warranty, and the customer can also obtain an extended five-year warranty.

**THE FAILURE RATE OF PANASONIC DEVICES IS SEVEN TIMES LOWER THAN THAT OF CONSUMER TABLETS.**

Therefore total cost of ownership over 5 years is lower.

The operating specifics of companies in this sphere are that prior to being put into service, equipment has to go hundreds of kilometres along poor roads which are subject to significant mechanical and weather loads. Despite these difficulties the equipment must be fully operational when delivered on site.

Any notebook failure will inevitably result in downtime and lost man-hours, for instance, at mobile geophysical log processing laboratories. If a helicopter is required, such failure can involve additional expense for the transportation of a replacement device.”

In Australia, Telstra documented a 91% failure rate reduction in the field when implementing Panasonic Fully Rugged devices.\*

\*Panasonic Australia case study, “Telco Giant Talks Tough”

# POLLING RESULTS FOR LARGEST OIL AND GAS COMPANIES IN EUROPE

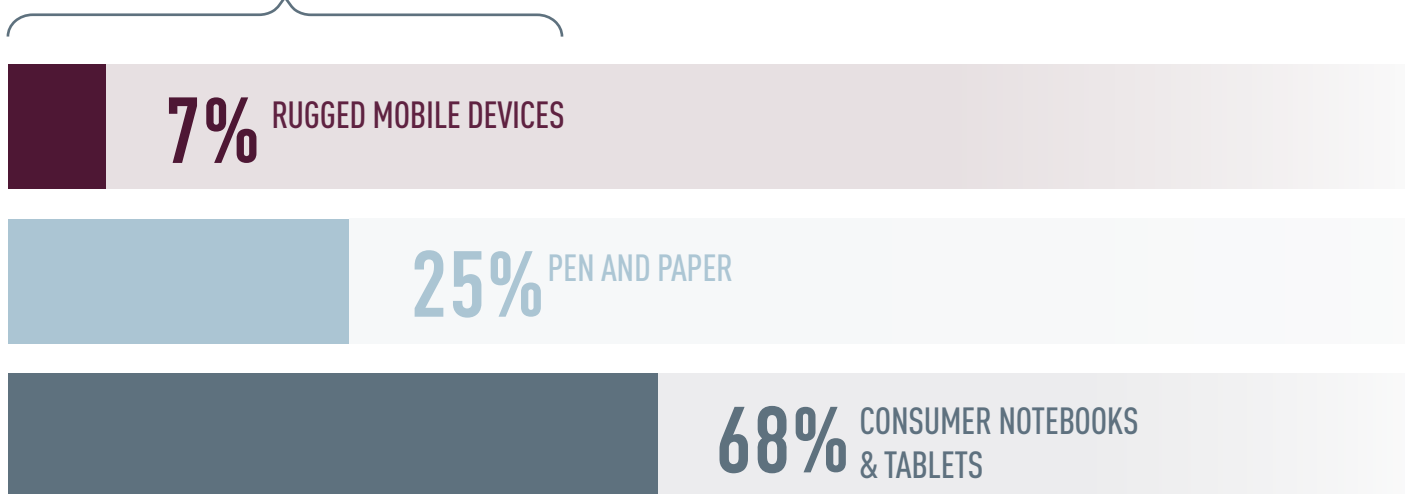
The second part of the research was a more detailed study among 50 participants of the 13th International Oil and Gas Exhibition held on June 23-26, 2015 at the Expo Centre exhibition complex, Moscow.

The respondents included the largest oil and gas companies of the country (drilling, oil and gas production, processing, transportation); oil and gas equipment manufacturers (calibration equipment, controls and instrumentation, fibre optics, automated process control systems); research companies working in offshore field development; companies that implement oil and gas pipeline safety and monitoring systems; service companies.

Companies with a staff of over 50 people were selected for participation in the poll.

## MOBILE DEVICES IN OIL AND GAS INDUSTRY

90%  COMPANY STAFF >500 EMPLOYEES



 20%  COMPANIES PLAN TO USE BUSINESS MOBILE DEVICES IN THE FUTURE AS THEY BELIEVE THEY ENHANCE PRODUCTIVITY

Only 7% of the companies polled use rugged mobile computer devices for operating tasks.

The interesting thing is that in 90% of these companies the staff is over 500 people.

25% of the respondents state they use “paper and pen” on sites, and 68% use consumer tablets and notebooks.

20% of the respondents plan to implement rugged mobile solutions within 2 years, since they consider that it will raise personnel working capacities and reduce costs.

# CONSUMER DEVICES USED "IN THE FIELD"

**28%**  
BATTERY LIFE IS TOO SHORT

**27%**  
DAMAGED TOO EASILY

**16%**  
UNABLE TO WORK IN LOW TEMPERATURES

**10%**  
NOT ENOUGH INTERFACES

**10%**  
UNABLE TO USE IN GLOVES

**9%**  
OTHER ISSUES

The following information was received on whether the responders were satisfied with the out-of-office performance of consumer devices:

As it was with the Neftegaz.ru poll, the overwhelming majority of the respondents mentioned too short battery life cycle (28%), the high risk of device damage (27%), impossibility of using the device at temperatures below zero (16%), lack of functions, impossibility to connect different external devices (10%), and impossibility to use the device while wearing gloves (10%). The last 9% mentioned such issues as screen problems, impossibility to use in sunlight, insufficient corporate safety of the devices, etc.

Separate research shows 7 in 10 consumer devices that fail in the field fail in a protective case. \*Worldsquare Research, 2012

# FIVE MAIN SCENARIOS OF MOBILE DEVICES IN OIL AND GAS INDUSTRY



**31%**



MAINTENANCE REPAIR AND OVERHAUL

**26%**



CHECK-OUT AND START-UP EQUIPMENT

**25%**



FOR GIS INFORMATION

**10%**



NON-DESTRUCTIVE CONTROL OF PIPES

**8%**



INSTRUMENTATION READINGS

The respondents told Panasonic Europe about the types of work where they apply rugged mobile devices or plan to upgrade the traditional out-of-date solutions:

Maintenance, pre-scheduled maintenance, and overhaul of wells and pipelines were at the top of the list (31%). They were followed by pre-commissioning activities at oil and gas facilities (26%), geophysical well logging solutions including geophysical surveys and metrology (25%), non-destructive control of pipelines (10%), and detectors, controls and instrumentation reading (8%).



42% of the respondents mentioned that their personnel sometimes, or often, work in explosive environments and made a point about their need for explosion-proof rugged tablets and notebooks.

Panasonic Toughpad FZ-G1 delivers ATEX & IECEx certifications for use within zone 2 environments.

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## ABOUT PANASONIC

Panasonic Corporation is a worldwide leader in the development and design of electronic technology and system solutions for homes, industries, transport and various devices for personal use.

Since its inception in 1918, the company has continuously grown and is now one of the largest global corporations, which unites more than 500 companies worldwide. Global sales in 2015 exceeded USD \$70 billion, supporting an extraordinary USD \$4.5 billion in annual research and development investment.

In 2016 Panasonic celebrates 20 years in rugged IT. Panasonic's mission is to create innovative integrated solutions that make people's lives easy and comfortable.



Visit [www.panasonic.com.au/toughbook](http://www.panasonic.com.au/toughbook)

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