VBR TURBINE PARTNERS
support beyond expectation

RAPID remote problem solving
to deliver 24/7 technical support
in case of unscheduled engine downtime

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RAPID remote problem solving

RAPID – why did VBR develop it?

Issues in Gas Turbine Operation & Maintenance:

- Unexpected and unscheduled outages will happen when operating Gas Turbines.

- Well executed predictive & preventive maintenance strategies can reduce the amount of unscheduled outages but they will not be able to entirely prevent them …

- Unscheduled outages have a major impact on the revenue generating potential and on the profitability of a gas turbine operation.

RAPID – why did VBR develop it?

Solutions for Gas Turbine Operation & Maintenance:

- GT operation & maintenance managers can benefit a lot from immediately available dedicated technical support in case of unscheduled engine downtime.

- Remote troubleshooting & problem solving by experienced GT service engineers can provide a high level of technical support at immediate notice and in a cost-effective way.

RAPID – what is it and what is the purpose?

RAPID - what is it?
24/7 remote technical troubleshooting and problem solving for gas turbines.

RAPID - what does it do?
It provides immediate remote assessment of GT problems and interventions or recommendations to solve these problems in a quick & effective way.
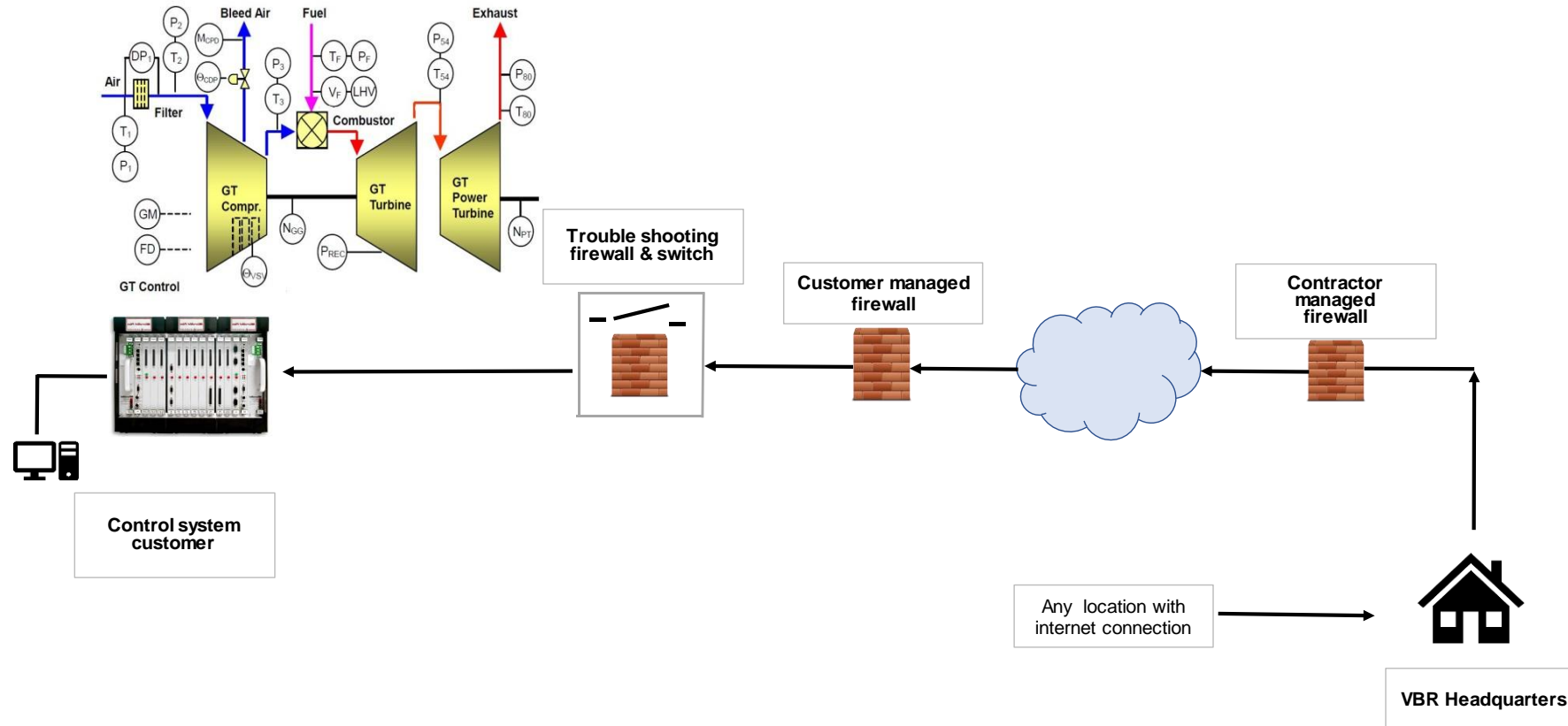
RAPID – what is the purpose?
Reduce engine downtime in case of unscheduled engine stops.

# Visual representation of the RAPID technical process

RAPID - how does I&C related remote problem solving work?

The six process steps of RAPID remote problem solving are:

1. Set up a cybersecure internet communication connection with customer.
2. Ask customer approval for this secure connection.
3. Start GT I&C troubleshooting & problem solving.
4. Inform customer about outcomes of the remote intervention and check if the problem is solved.
5. Customer disconnects secure internet connection immediately after the problem is solved.
6. VBR confirms disconnection to customer.
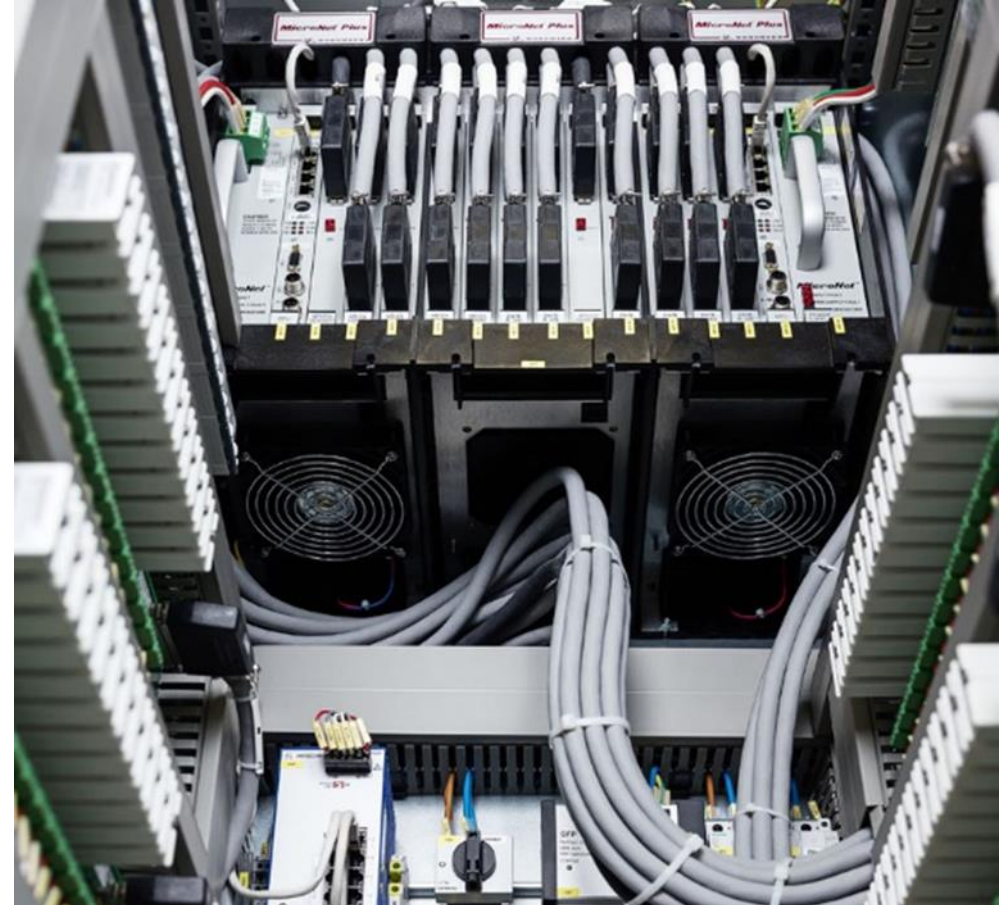
Augmented Reality (AR) support for remote I&C problem solving

RAPID is a powerful solution for remote solving of the majority of I&C related GT problems.

More specific I&C issues will also require some kind of physical intervention in the sensors, cabling or control system of the GT to solve the problem.
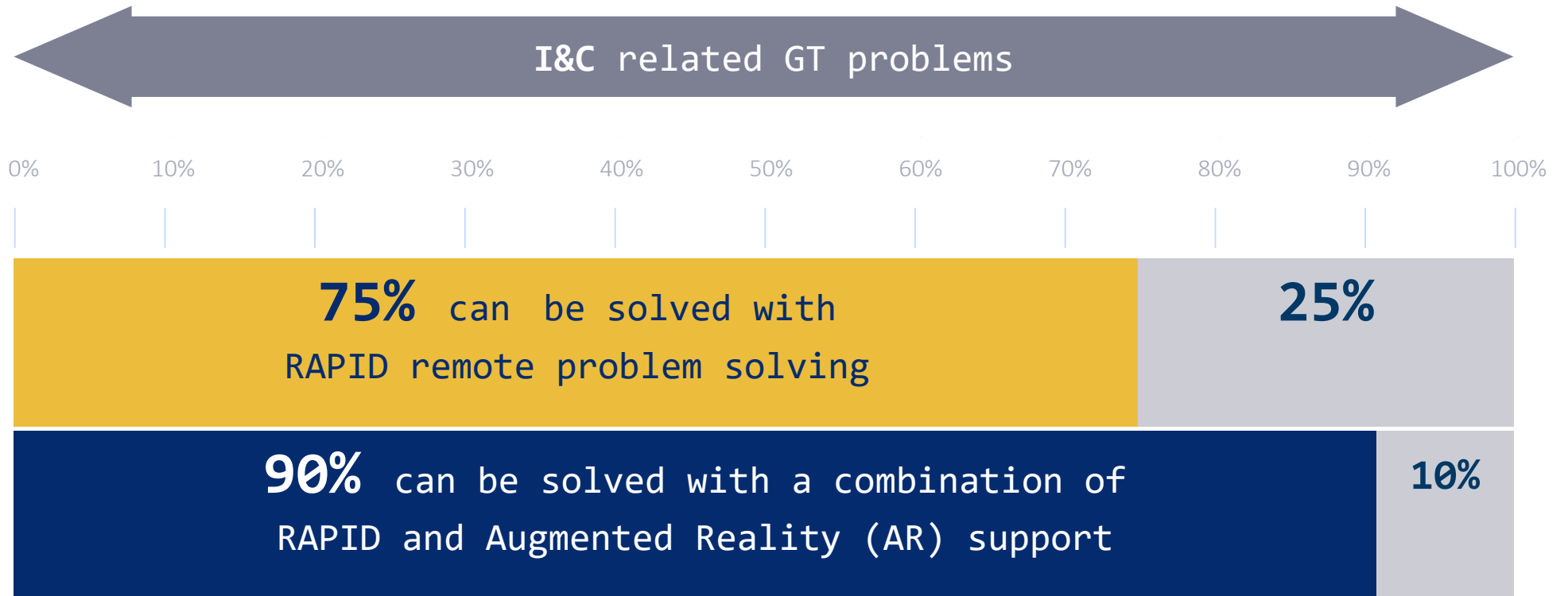
When an operator does not have these specific technical I&C capabilities on site specialised external I&C experts can provide Augmented Reality support to on-site maintenance engineers to solve these issues.

Augmented Reality (AR) support by external technical experts enables maintenance engineers on site to enhance their technical problem solving capabilities.

Effective remote solving of I&C related GT problems (with RAPID and AR-support)

I&C related GT problems

0%   10%   20%   30%   40%   50%   60%   70%   80%   90%   100%

75% can be solved with RAPID remote problem solving

25%

90% can be solved with a combination of RAPID and Augmented Reality (AR) support

10%

Summary

Effective corrective maintenance is a key enabler for sustainable improvement of the profitability of any Gas Turbine operation.

The most effective way to organize corrective GT maintenance is to have skilled maintenance engineers on site who are supported 24/7 by immediately available & dedicated external gas turbine experts.

Augmented Reality (AR) support by external technical experts enables maintenance engineers on site to enhance their technical problem solving capabilities.

RAPID remote problem solving enables Gas Turbine owners & operators to perform more complex corrective I&C maintenance interventions in a quick, effective and cost-effective way.