Shell's Journey to Advanced Analytics

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Definitions & cautionary note

The New Lens Scenarios are part of an ongoing process used in shell for 40 years to challenge executives' perspectives on the future business environment. We base them on plausible assumptions and quantification, and they are designed to stretch management to consider even events that may be only remotely possible. Scenarios, therefore, are not intended to be predictions of likely future events or outcomes and investors should not rely on them when making an investment decision with regard to Royal Dutch Shell plc securities.

It is important to note that Shell's existing portfolio has been decades in development. While we believe our portfolio is resilient under a wide range of outlooks, including the IEA's 450 scenario, it includes assets across a spectrum of energy intensities including some with above –average intensity. While we seek to enhance our operations' average energy intensity through both the development of new projects and divestments, we have no immediate plans to move to a net-zero emissions portfolio over our investment horizon of 10-20 years.

The companies in which Royal Dutch Shell plc directly and indirectly owns investments are separate legal entities. In this presentation "Shell", "Shell group" and "Royal Dutch Shell" are sometimes used for convenience where references are made to Royal Dutch Shell plc and its subsidiaries in general. Likewise, the words "we", "us" and "our" are also used to refer to subsidiaries in general or to those who work for them. These expressions are also used where no useful purpose is served by identifying the particular company or companies. ''Subsidiaries'', "Shell subsidiaries" and "Shell companies" as used in this presentation refer to companies over which Royal Dutch Shell plc either directly or indirectly has control. Entities and unincorporated arrangements over which Shell has joint control are generally referred to "joint ventures" and "joint operations" respectively. Entities over which Shell has significant influence but neither control nor joint control are referred to as "associates". The term "Shell interest" is used for convenience to indicate the direct and/or indirect ownership interest held by Shell in a venture, partnership or company, after exclusion of all third-party interest.

This presentation contains forward-looking statements concerning the financial condition, results of operations and businesses of Royal Dutch Shell. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements. Forward-looking statements are statements of future expectations that are based on management's current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. Forward-looking statements include, among other things, statements concerning the potential exposure of Royal Dutch Shell to market risks and statements expressing management's expectations, beliefs, estimates, forecasts, projections and assumptions. These forward-looking statements are identified by their use of terms and phrases such as ''anticipate'', ''believe'', ''could'', ''estimate'', ''expect'', ''goals'', ''intend'', ''may'', ''objectives'', ''outlook'', ''plan'', ''probably'', ''project'', ''risks'', "schedule", ''seek'', ''should'', ''target'', ''will'' and similar terms and phrases. There are a number of factors that could affect the future operations of Royal Dutch Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this [report], including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell's products; (c) currency fluctuations; (d) drilling and production results; (e) reserves estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, fiscal and regulatory developments including regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; and (m) changes in trading conditions. No assurance is provided that future dividend payments will match or exceed previous dividend payments. All forward-looking statements contained in this presentation are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Additional risk factors that may affect future results are contained in Royal Dutch Shell's 20-F for the year ended December 31, 2016 (available at www.shell.com/investor and www.sec.gov). These risk factors also expressly qualify all forward looking statements contained in this presentation and should be considered by the reader. Each forward-looking statement speaks only as of the date of this presentation, 16-Oct-2017. Neither Royal Dutch Shell plc nor any of its subsidiaries undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other information. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this presentation. This presentation may contain references to Shell's website. These references are for the readers' convenience only. Shell is not incorporating by reference any information posted on www.shell.com. We may have used certain terms, such as resources, in this presentation that United States Securities and Exchange Commission (SEC) strictly prohibits us from including in our filings with the SEC. U.S. Investors are urged to consider closely the disclosure in our Form 20-F, File No 1-32575, available on the SEC website www.sec.gov.

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About Shell in 2016

92,000
Average number of people we employed

$21 billion
Cash flow from operating activities

30 million customers
Served every day through 43,000 Shell-branded retail stations

30.9 million tonnes per annum
LNG liquefaction volumes

2%
Our share of the world's oil production

70+
Number of countries in which we operated



50%
Share of our production that was natural gas

1%
Our share of global supply of energy

3.7 million
Our production of crude oil and natural gas, in barrels of oil equivalent a day



57.1 million
Tonnes of LNG we sold

$1.0 billion
spent on R&D

$102 million
Spent on voluntary social investment worldwide

1 million tonnes
Amount of CO_2 captured by Quest CCS facility in 2016

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PI System Center of Excellence





15,000+
Number of users

7.5 Million
Instruments connected

20+ Years
Process data available real-time

30,000
Reports being used daily to make the right decisions

40,000
Displays available and being used by the business everyday

100,000
Calculations running every minute

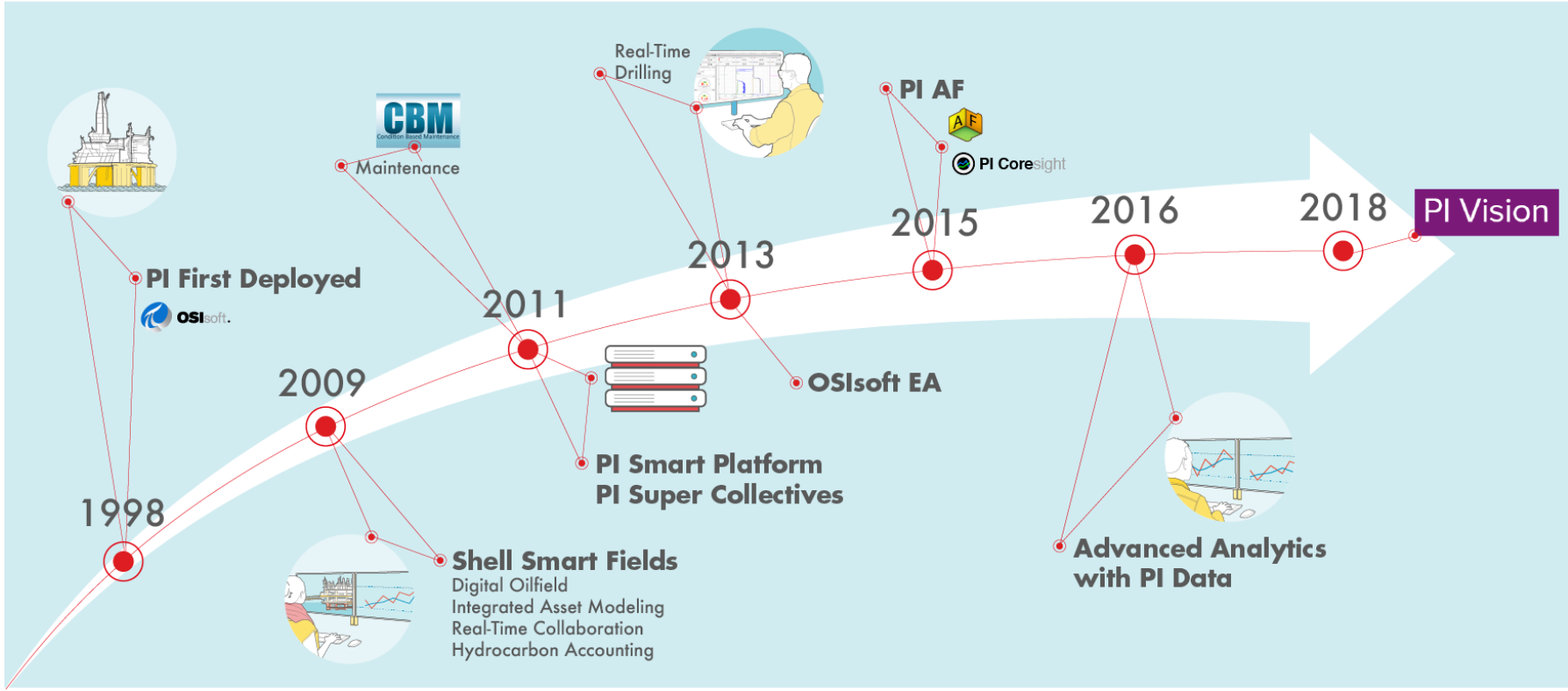
ALL SHELL BUSINESSES ARE CONNECTED TO PI

- ✓ Downstream
- ✓ Upstream
- ✓ Projects & Technology
- ✓ Integrated Gas
- ✓ Unconventional Resources
- ✓ Shell Trading
- ✓ Pipeline



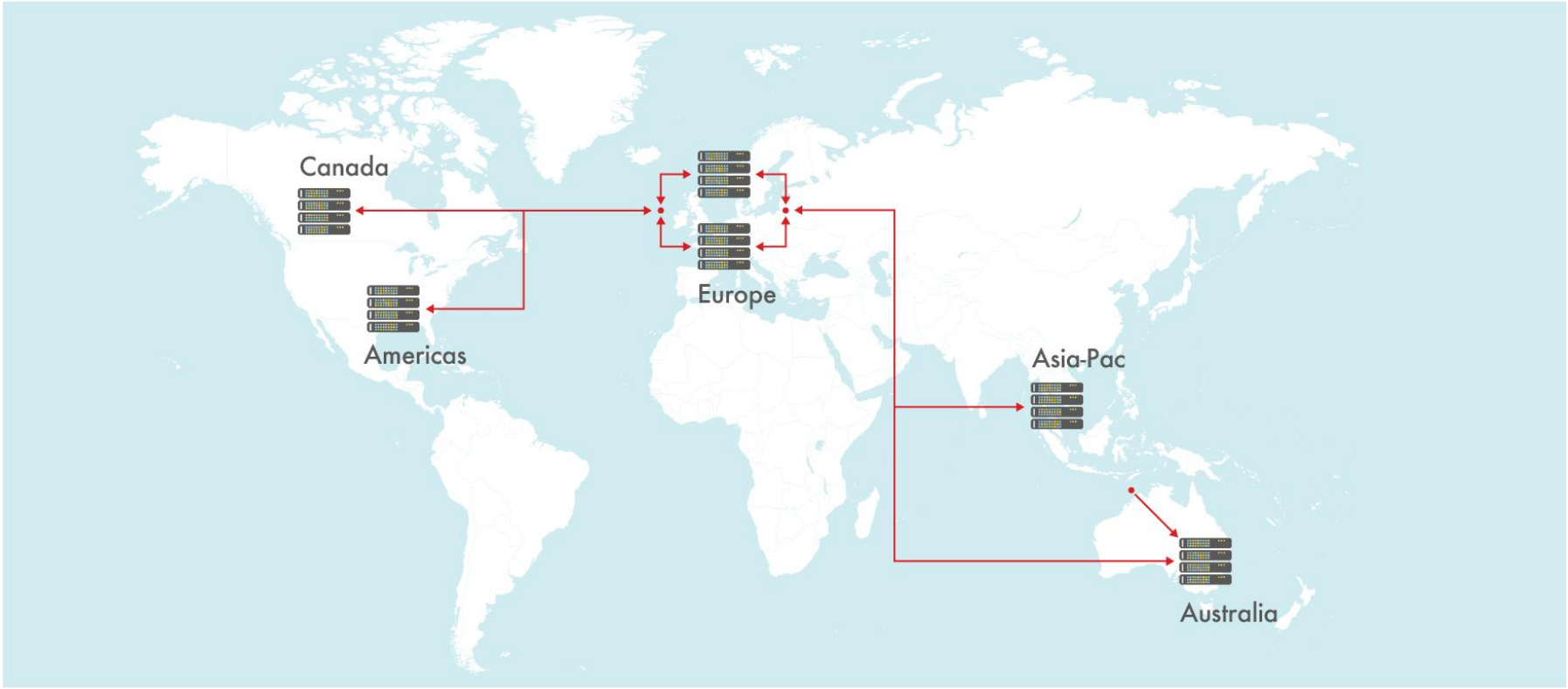
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The Shell Journey with OSIsoft PI System



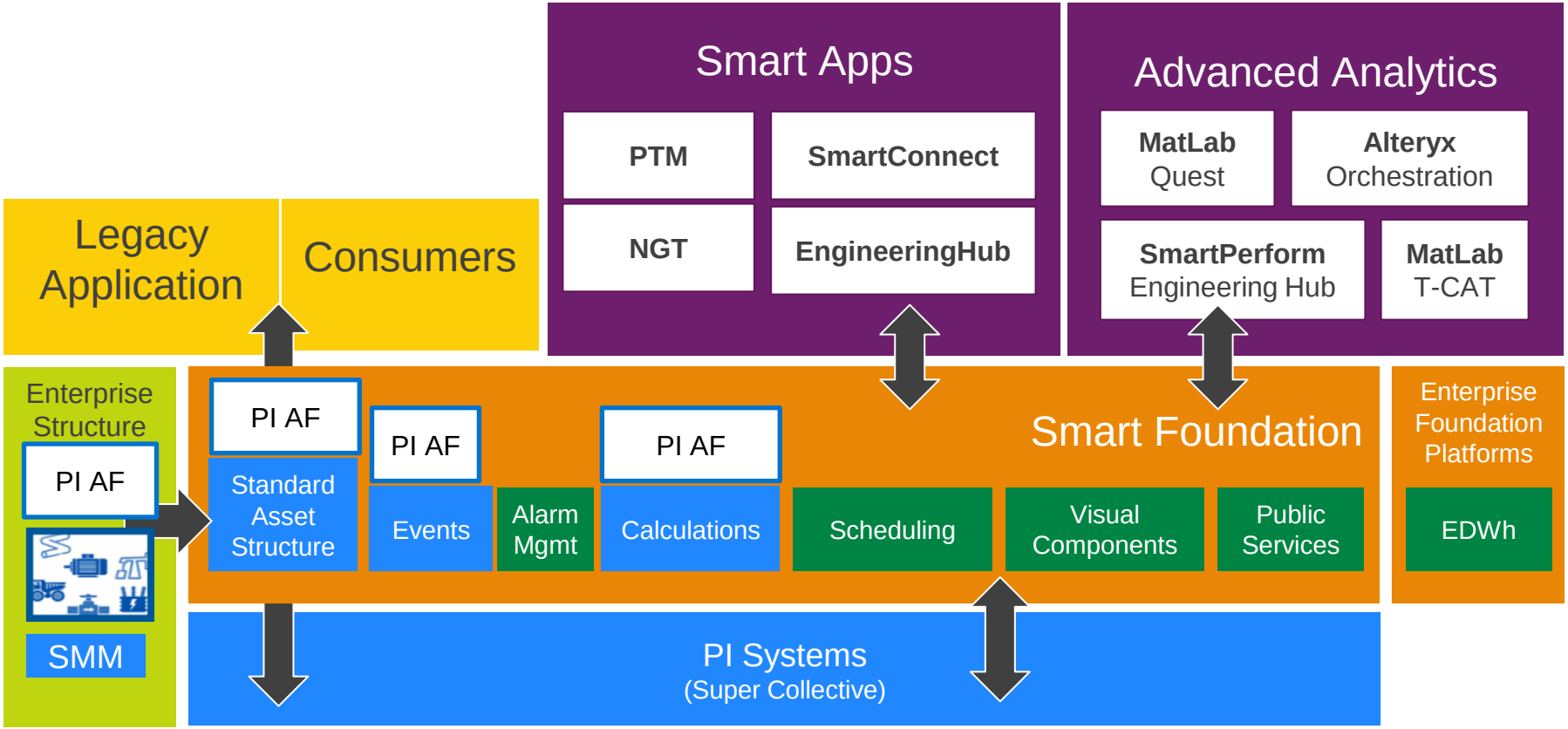
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PI Real-Time Architecture within Shell



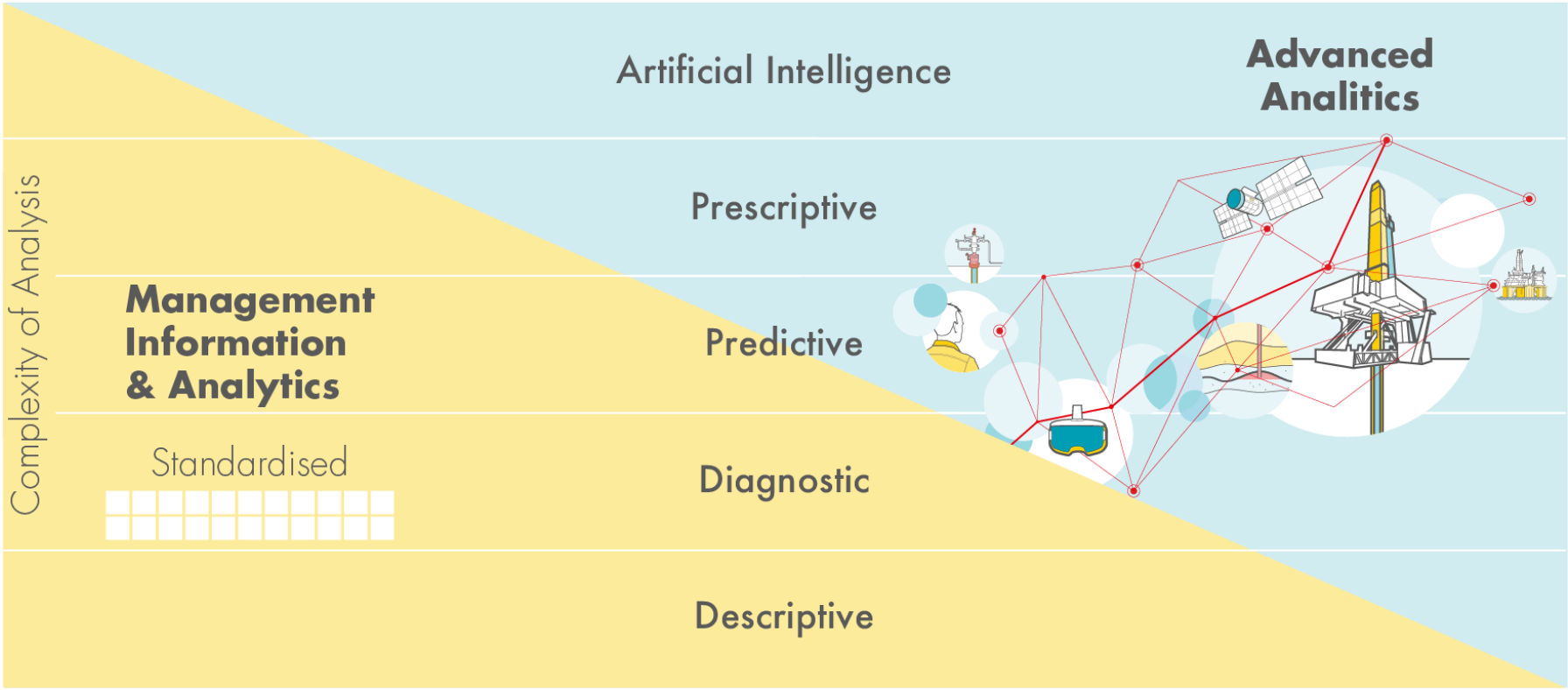
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Real-Time Architecture within Shell



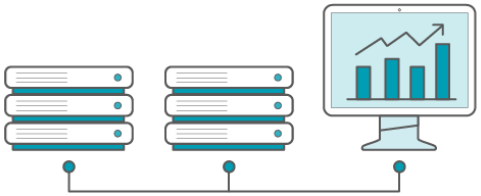
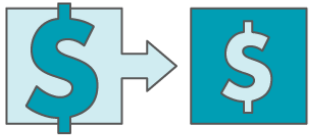
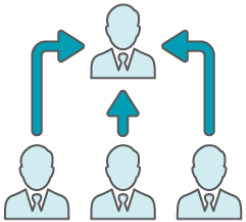
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Analytics framework



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Building Analytics capabilities in Shell

	1 Select foundational technologies	2 Showcase 'Art of the Possible'	3 Facilitate best practice sharing across Shell
Strategic Objective			
Enablers	 Innovation Remit	 Core Team with Technical & Commercial skillset	 External Learnings & Best Practice Sharing	 Analytics Networks	 Analytics Lab to trial & test technology in supported environment

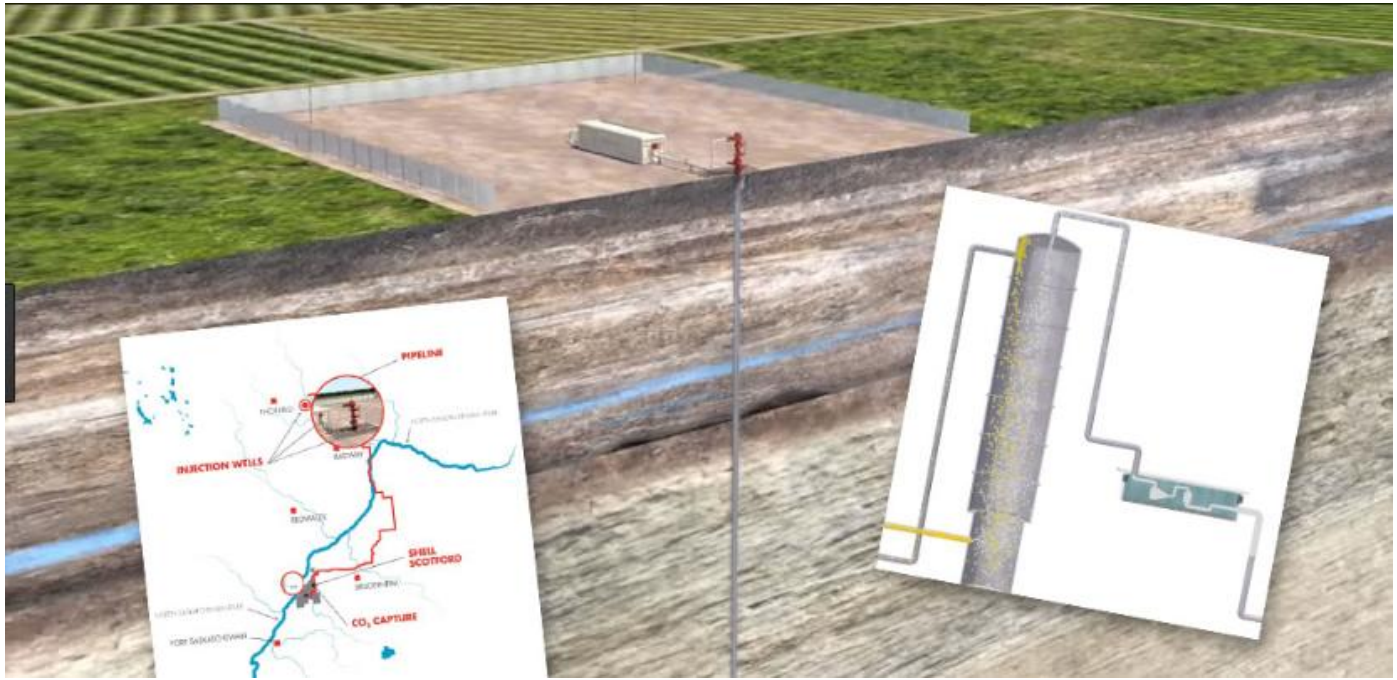
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Making the most of existing data

Predictive Asset Maintenance



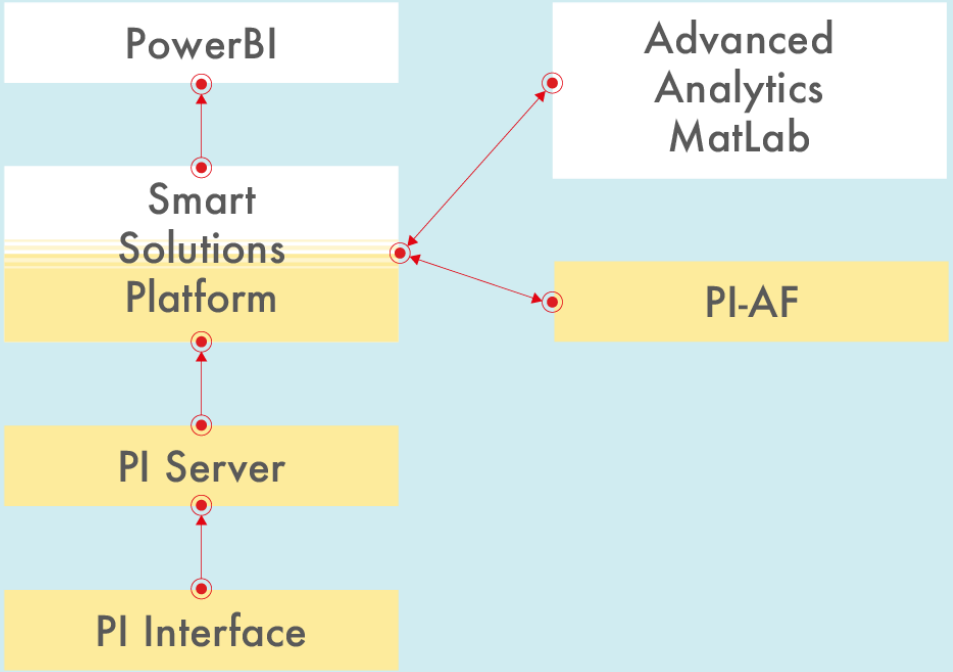
Carbon Capture & Storage

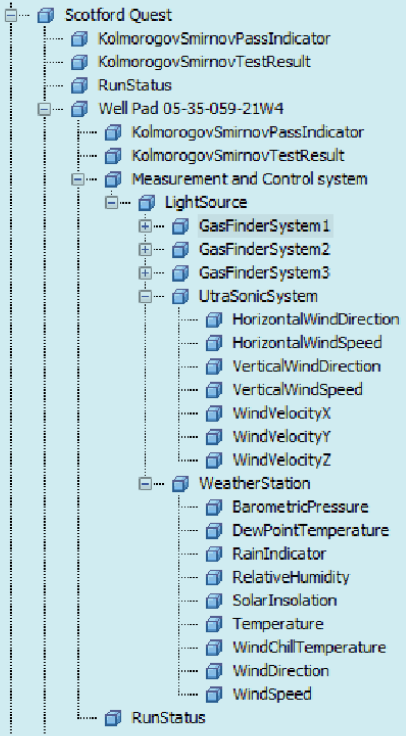






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The human factor



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Questions

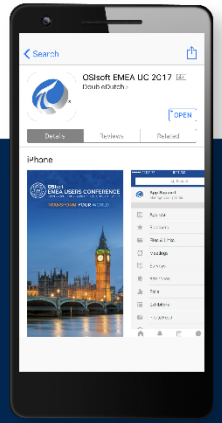
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谢谢

Danke

Gracias

Merci

Thank You

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