

Improving Exploration Performance: Our Learning Curve

Jan Konstanty

Exploration Portfolio Management & Prospect Appraisal

Risk Manager Workshop

New Orleans

April 15, 2010



■ • BASF Gruppe

Who is Wintershall ?

Wintershall

Current Upstream Assets and Activities



• BASF Gruppe

Norway

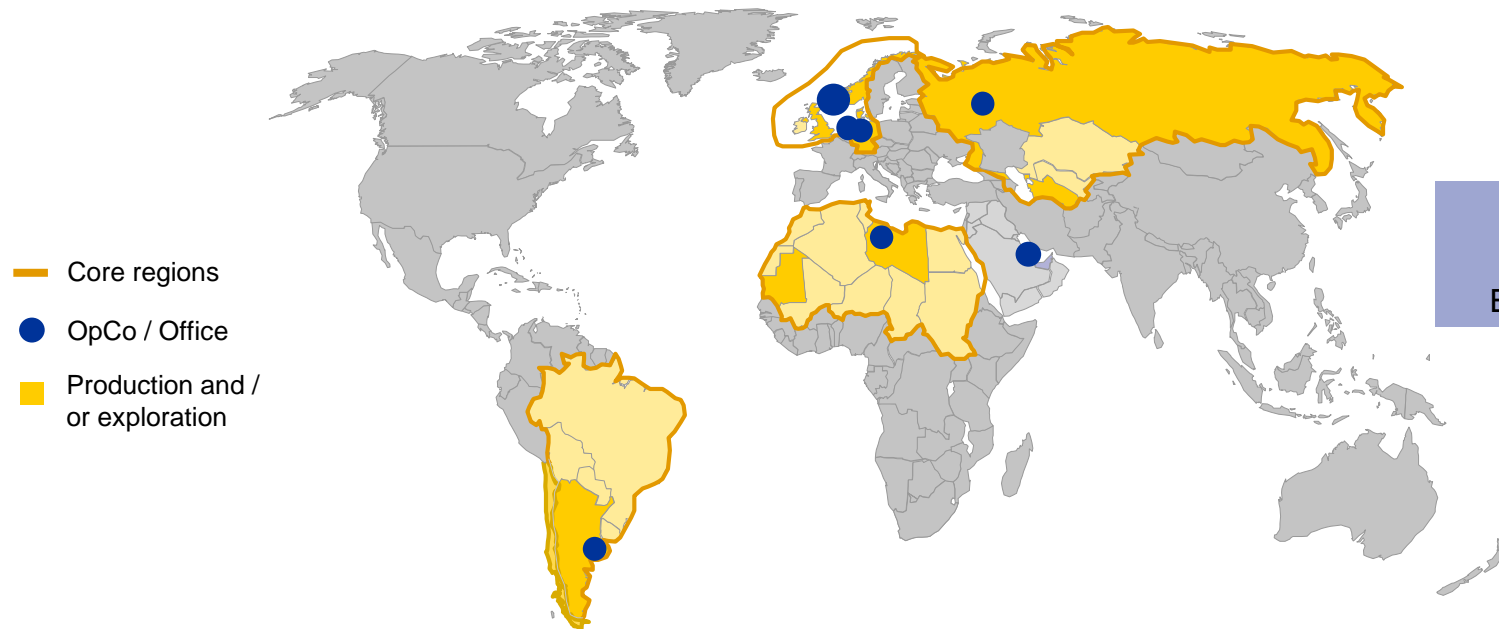
Expansion following corporate acquisition

Germany

Tight Gas Developments
Steam Flooding Projects

The Netherlands

Field Developments



- Core regions
- OpCo / Office
- Production and / or exploration

Qatar

Block 4N and Block 3 Exploration

Argentina

Aries/Carina
Aguada Pichana
Onshore Exploration

Libya

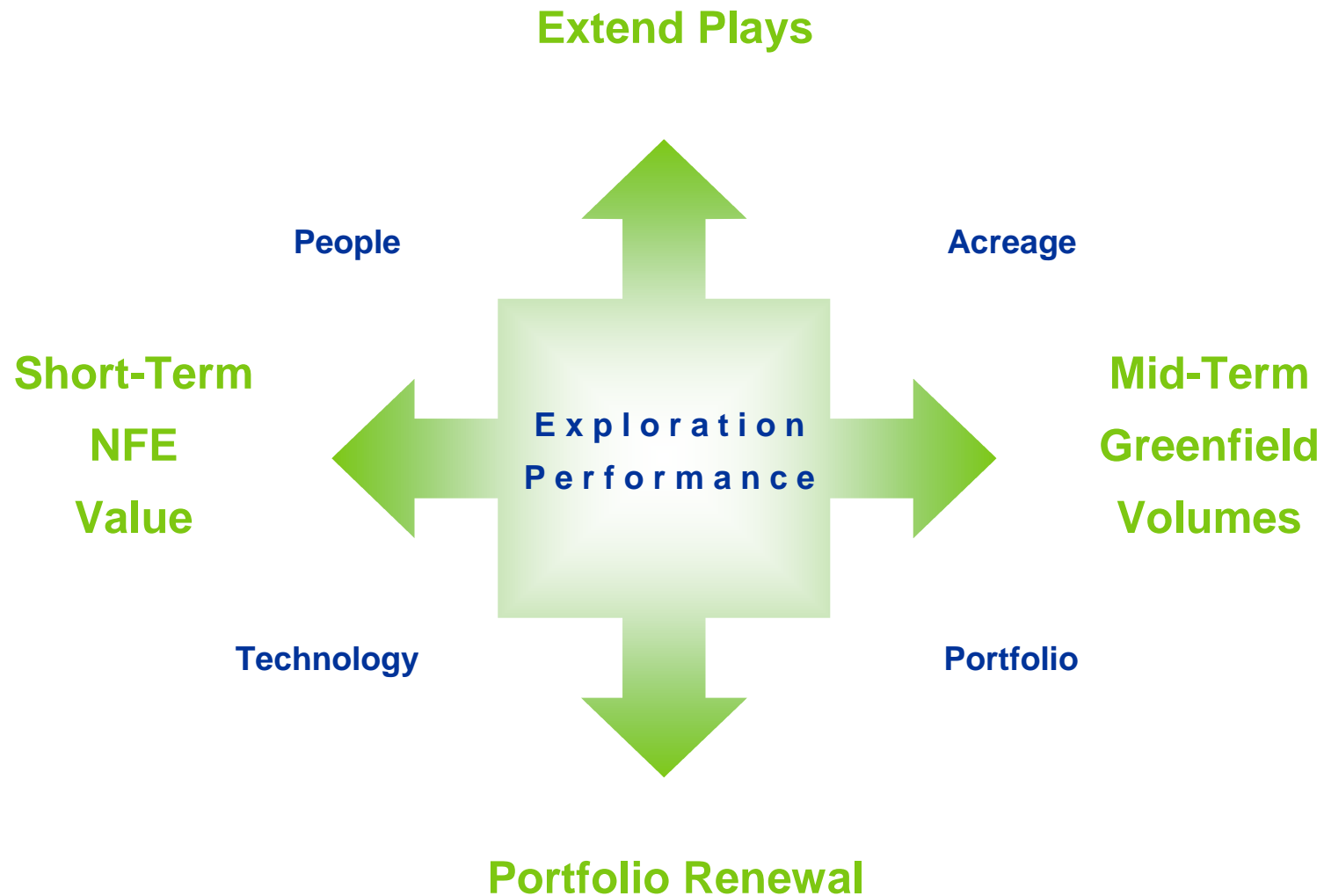
As Sarah Field
On- & Offshore
Exploration

Russia

Achimgaz
Yuzhno Russkoye

Exploration Force Field

Paradigm Shift and Raising Challenge



Historical Exploration Setup

Historical Exploration Setup

2006 Benchmark



Very good technical success rate

Variable approaches to chance & uncertainty definition

No central portfolio management

Volume delivery deviated from pre-drill assumptions

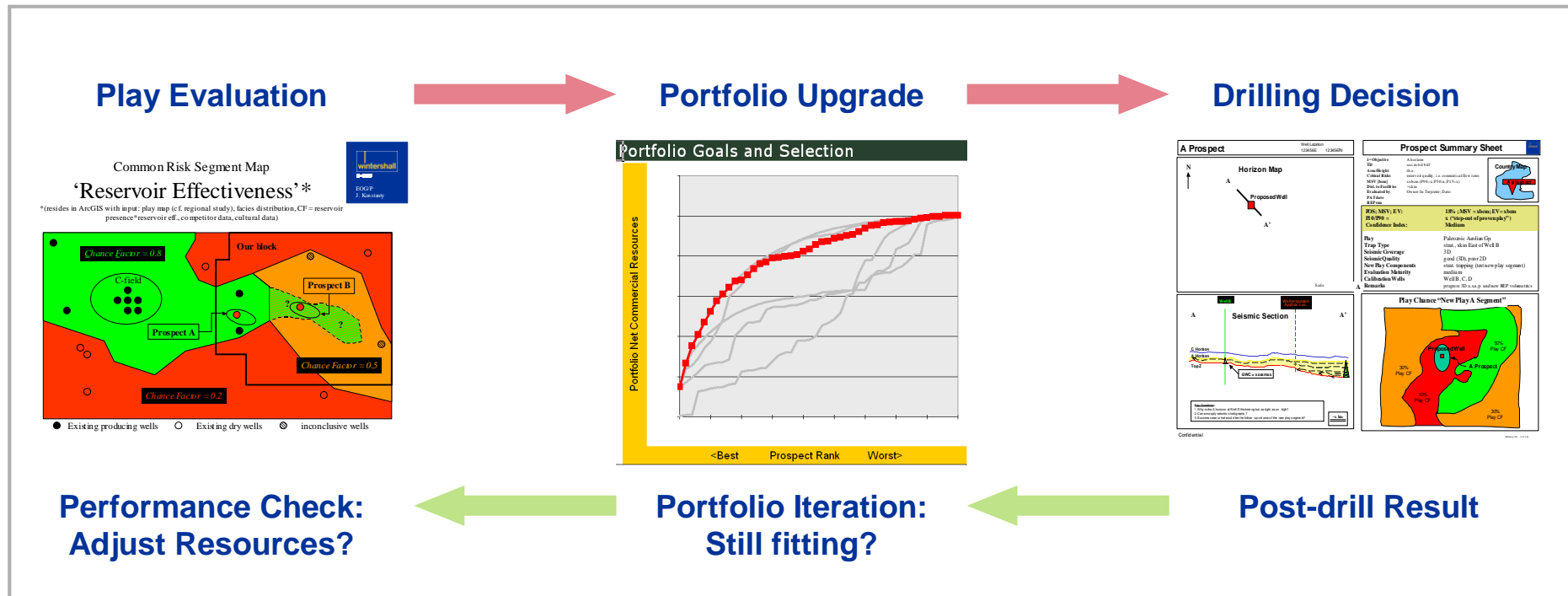
Not unique to Wintershall. Ignoring those symptoms is a threat to exploration value creation.

Improvement Measures

Improvement Measures

Play-Based Exploration

The PLAY is the commercial unit – NOT the prospect.

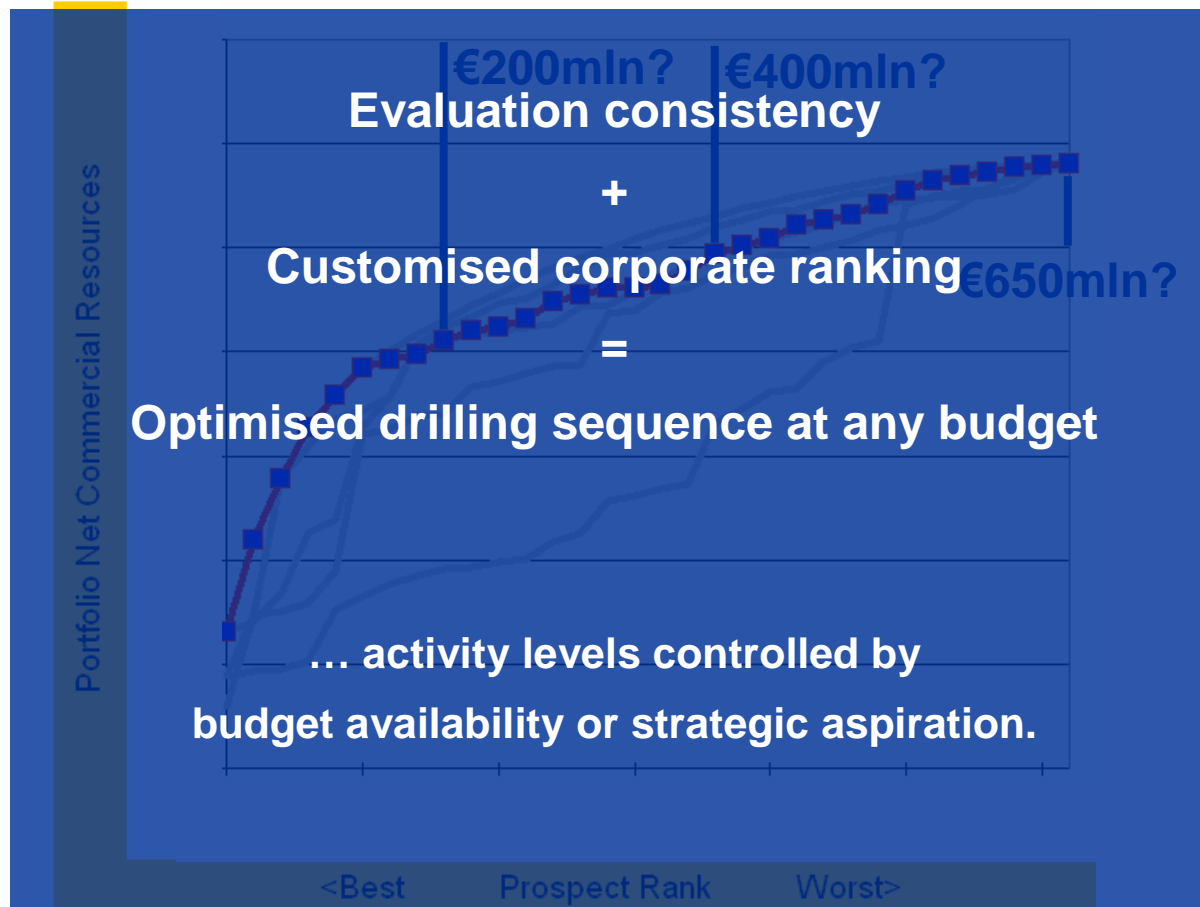


Improvement Measures

Corporate Portfolio Management



■ BASF Gruppe



Using a single corporate **ranking for budget allocation** was key to performance.

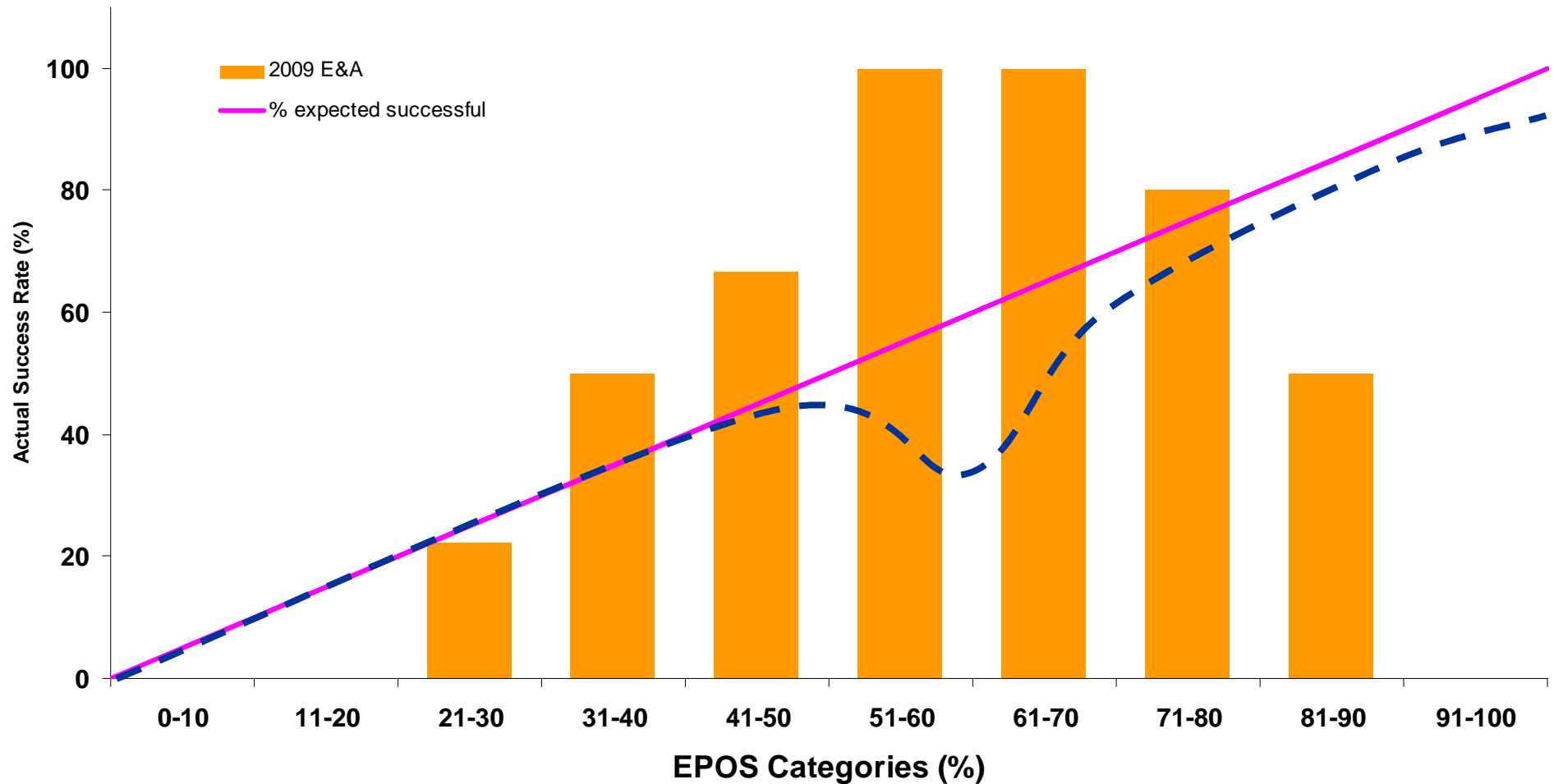


■ BASF Gruppe

Performance Tracking

Performance Tracking

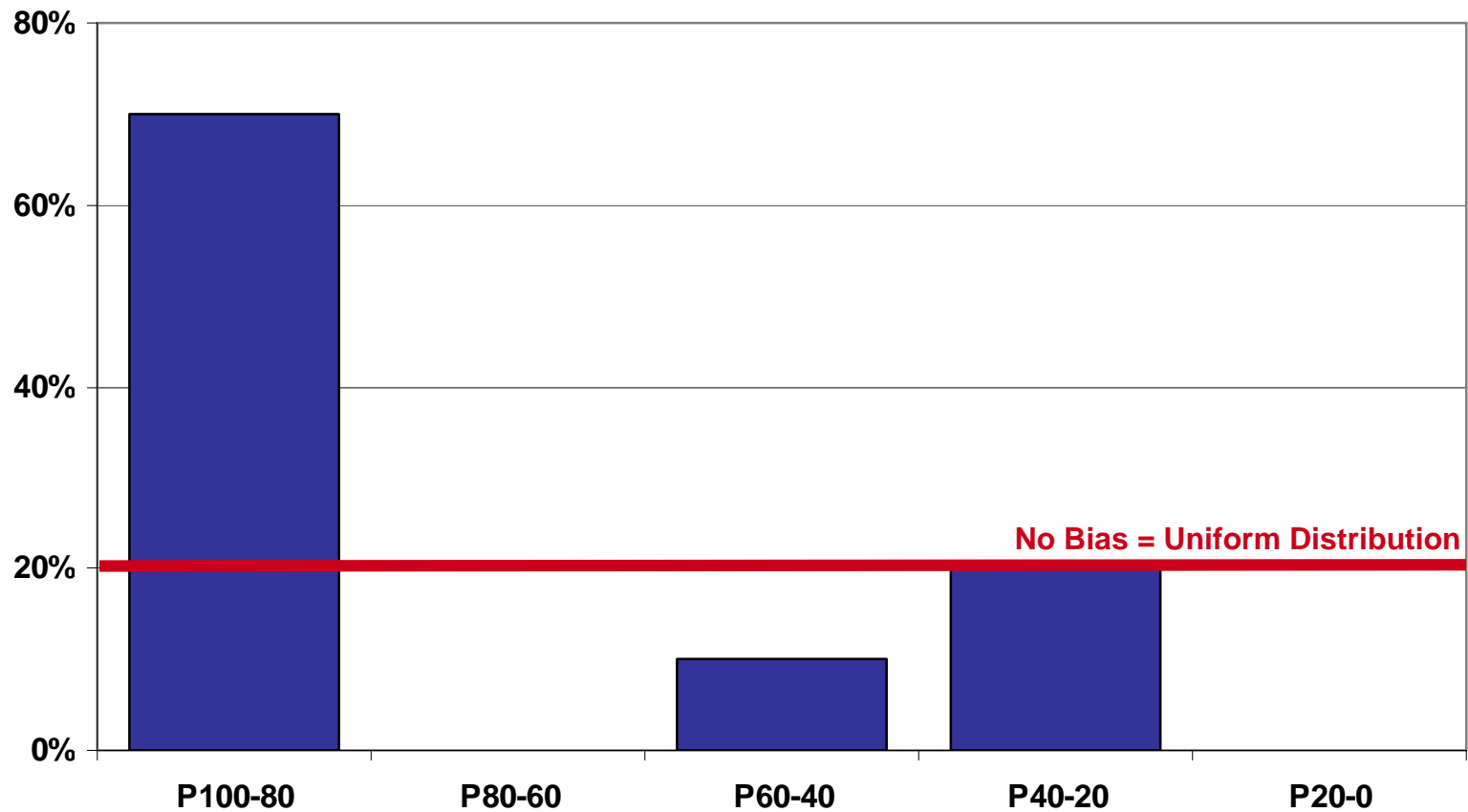
Predictive Capacity (Probability of Success)



Performance Tracking

Predictive Capacity (Prospect Level)

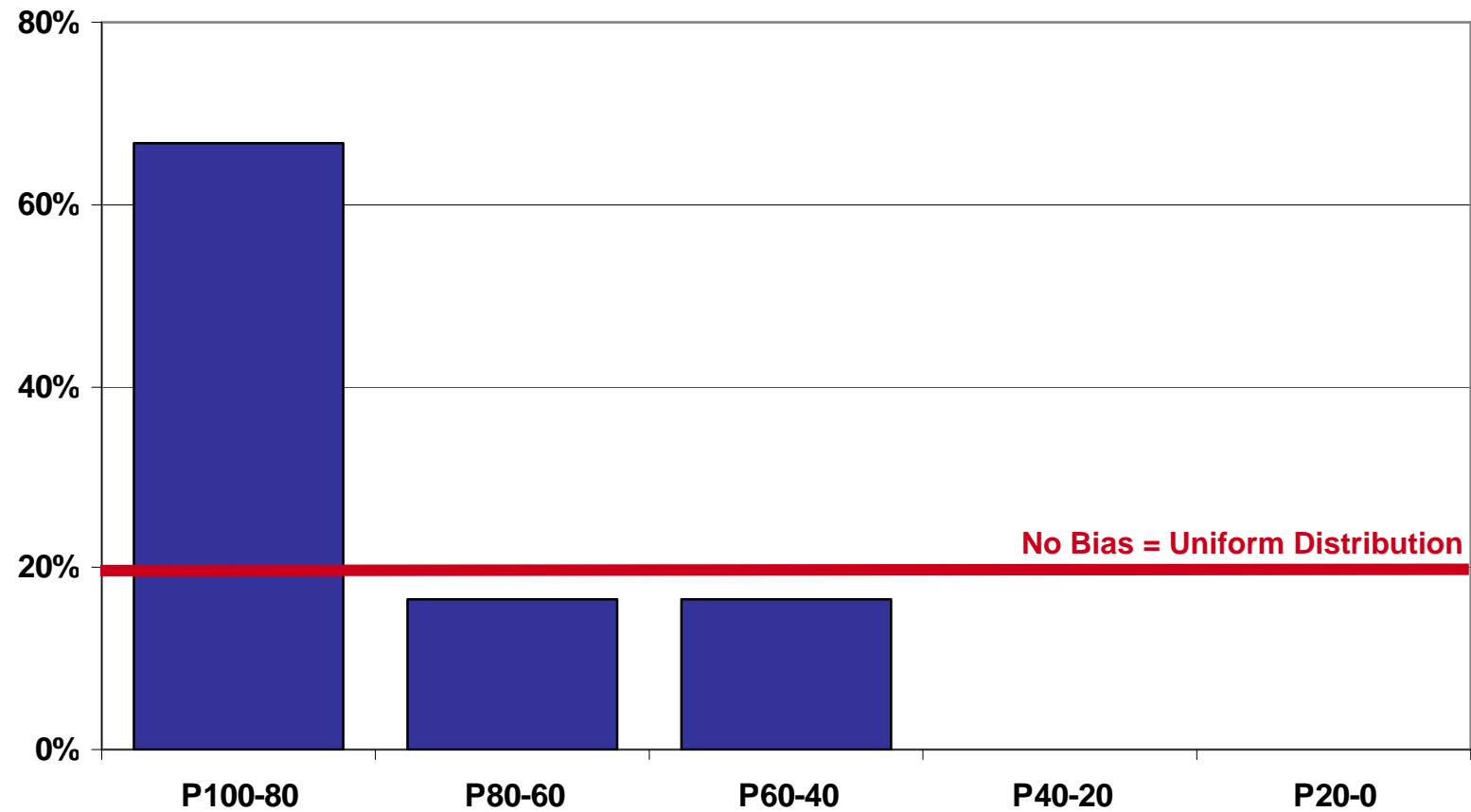
2007



Performance Tracking

Predictive Capacity (Prospect Level)

2008

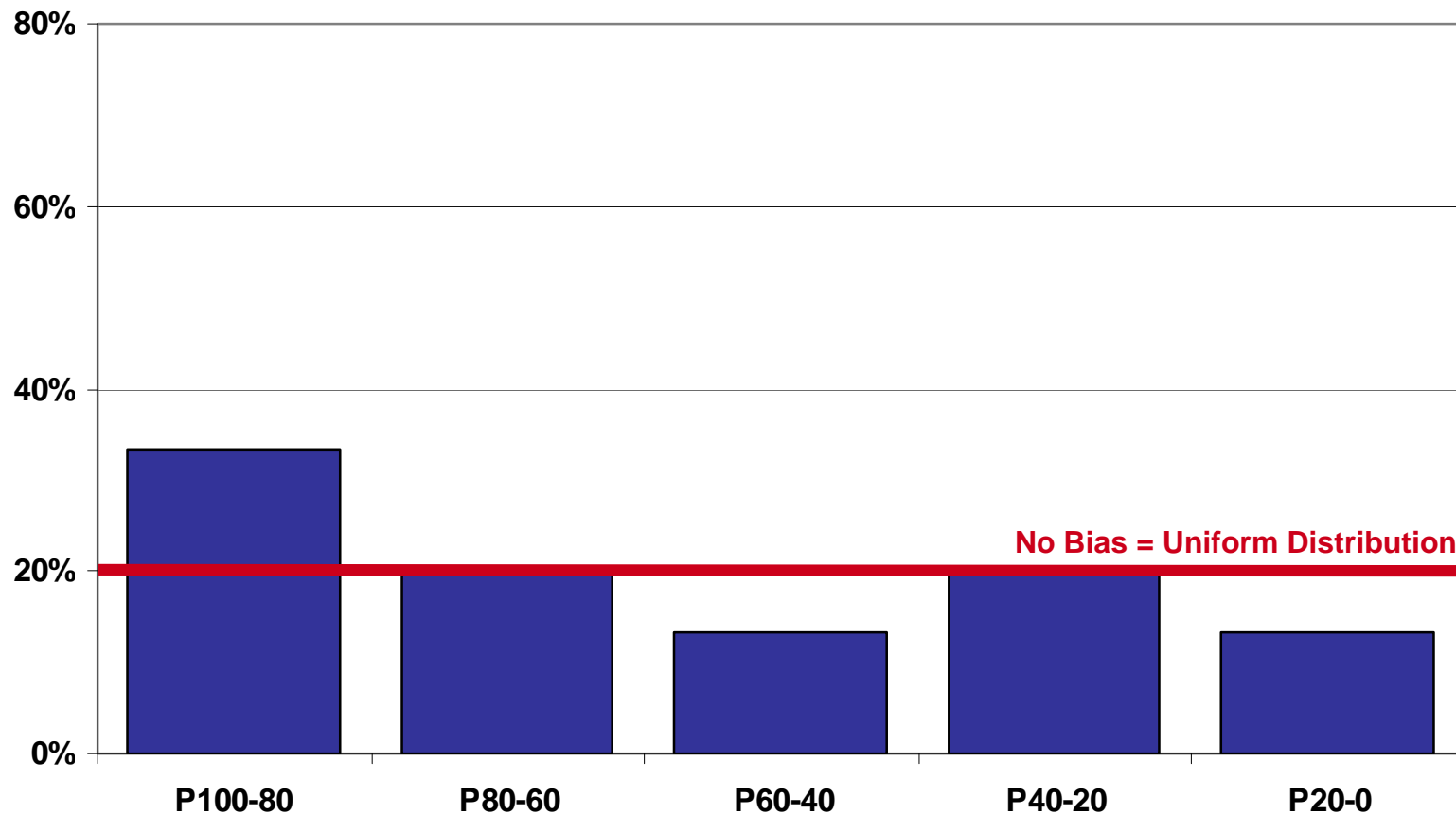


Performance Tracking

Predictive Capacity (Prospect Level)



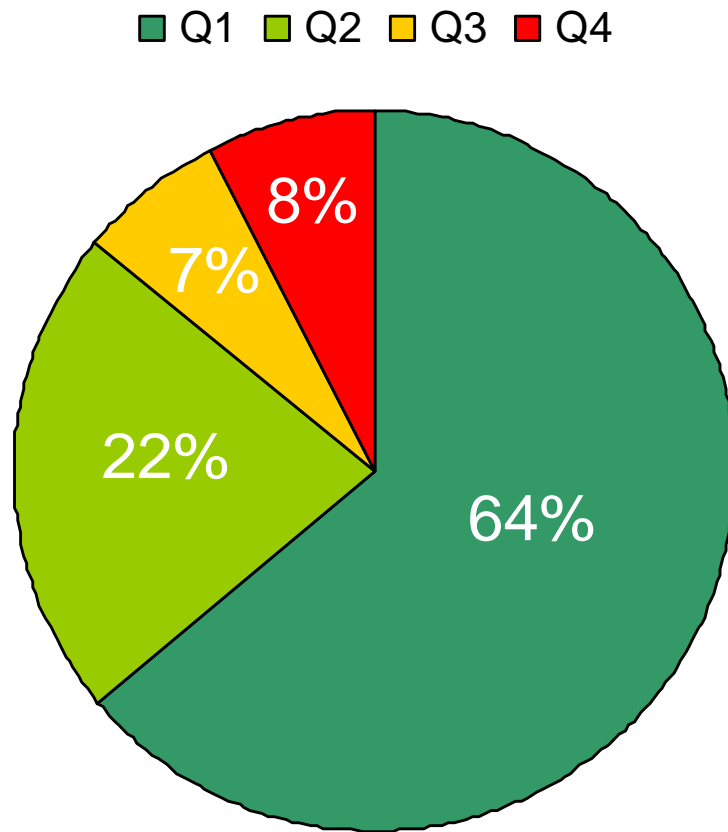
2009



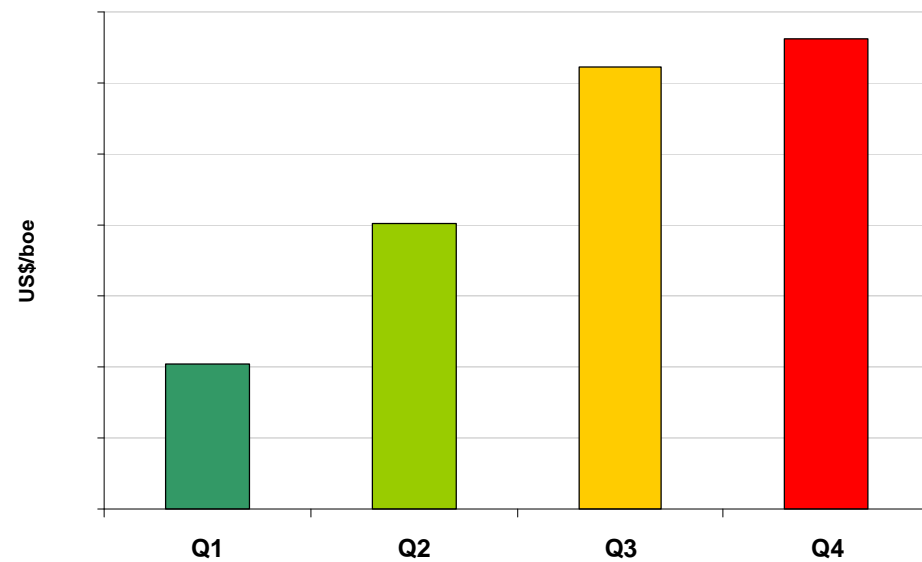
Performance Tracking

High Ranks Did Deliver Best

Resource Additions per Quartile Rank



Unit Finding Cost per Quartile Rank



Conclusion

Measurable Improvement



- ➔ **Portfolio additions & budget relocation paid back**
- ➔ **Unit Finding Cost significantly decreased**
- ➔ **Increased discovery rate**

- ➔ **87% volume delivery**
- ➔ **95% of resource additions from $25\% \leq \text{GPOS} \leq 75\%$**
- ➔ **Primary & secondary pre-drill risks confirmed in 75% of dry wells**

Conclusion

Key Success Factors & Collateral Benefits



- ➔ **Mandatory standards for prospect evaluation**
- ➔ **Corporate prospect ranking drives budget allocation**
- ➔ **Global upgrading requirements for local opportunities**
- ➔ **Performance tracking**

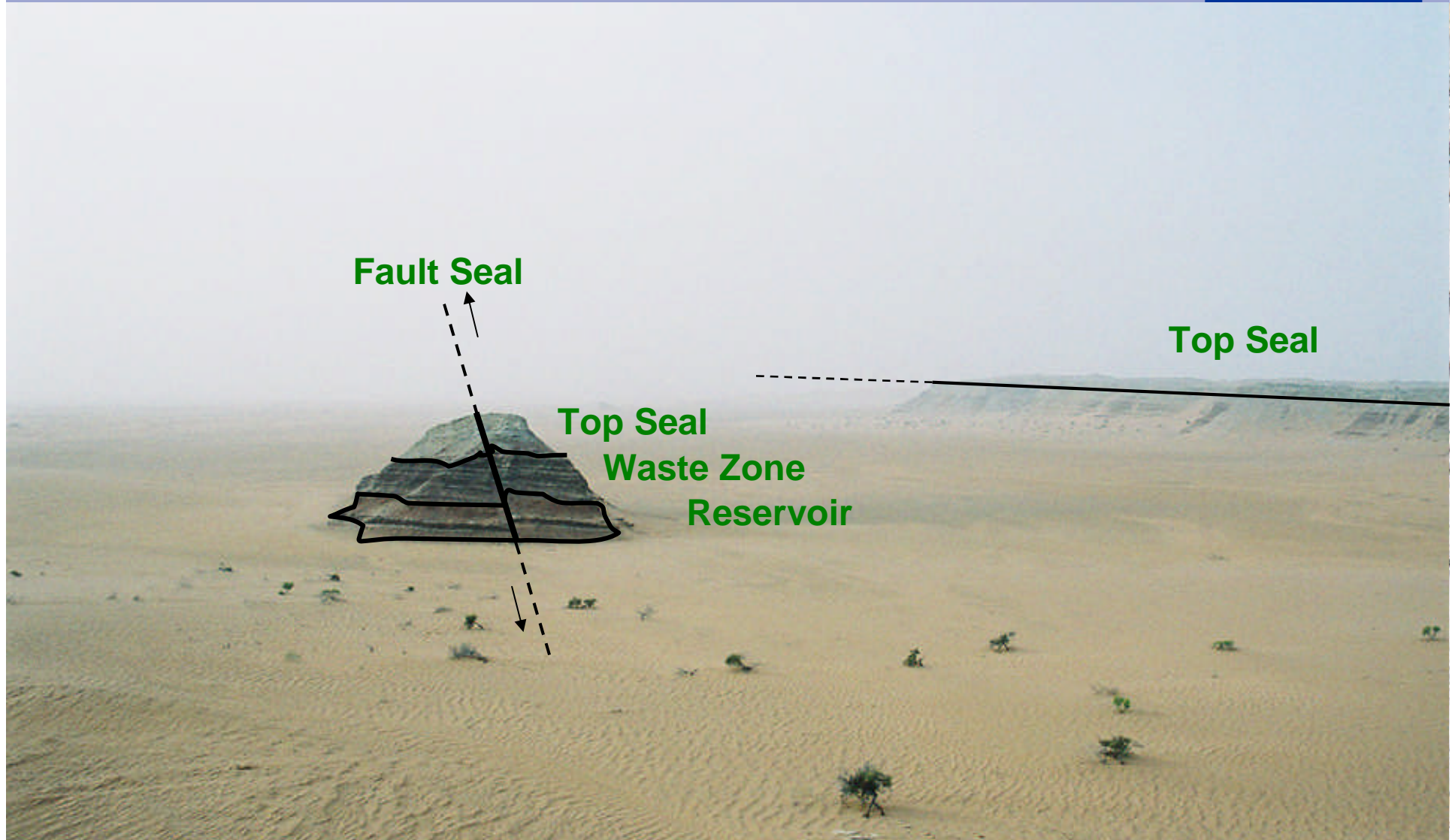
- ➔ **Common goals beyond local operating companies**
- ➔ **Buy-in at all levels of the company**
- ➔ **Exploration gained momentum**

Most Critical Success Factor

Finding New Plays and Portfolio Options



• BASF Gruppe



Top Explorers Never Stop Learning.

Thank You.

Questions?

jan.konstanty@wintershall.com