

**A shared vision for Oil & Gas Exploration and low cost Space Science:  
The use of 'games technology' to support tele-operation**

---

KITE club

24 January 2007

**Andy Hide**, Head of Space Science

## Pull Through, Synergy and Repurposing

### Requirements:

Oil and Gas Exploration

Lunar Science



### Gaming technology:

What is it?

Why does it matter?

## Oil and Gas Exploration: The Reality

### The \$ cost of failure



Investment in state of the art R&D

## Drilling and Rover Requirements



- Shallow Lunar Drilling
- Deep Bore Lunar Drilling
- Terrestrial Remote Drilling



- Tele-operated Roving
- Farside and Craters
- Stanford University and the DARPA Grand Challenge

## Gaming Technology

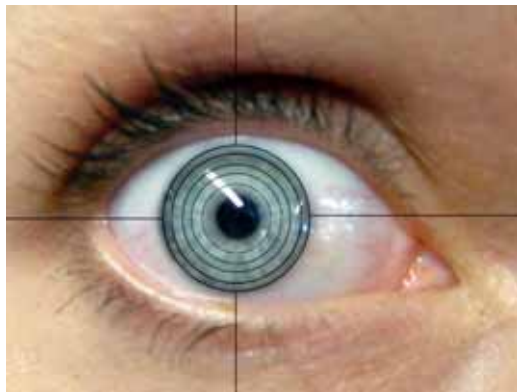
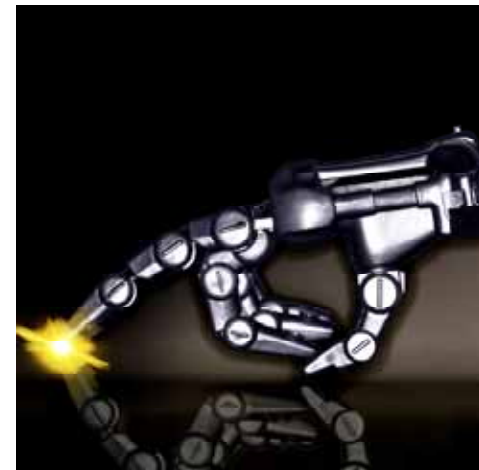
- Software

- Visualisation and Control
- Real Time Ray Tracing



- Hardware

- Multi-CPU Processing
- Autonomous GNC and Avionics
- Machine Assistance



- MMI

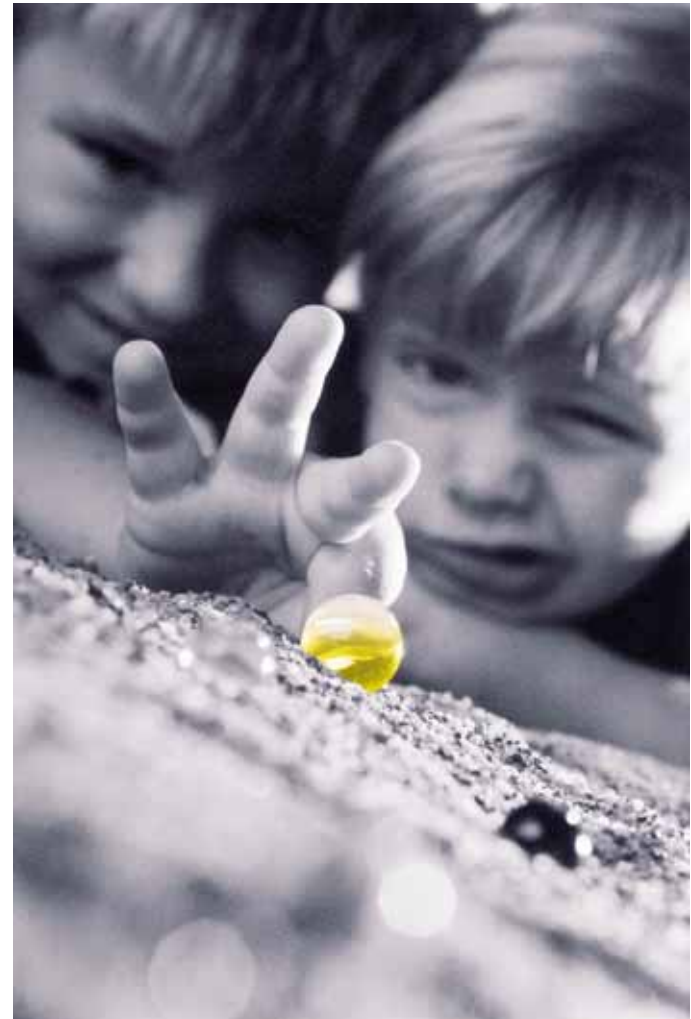
- Intelligent Interpretation
- Immersion

## Gaming Technology – A relevant diversion?

How seriously should we take this?

Oil and Gas industry have already adopted it

Tele-operation built on pre-existing gaming engines: achieve science objectives that otherwise require an astronaut's presence



## Short and Medium term R&D required



- Demonstrations (earth based and moon based)
- Simulations of mars based activities
- Cross-sector activity
- Leverage game engines
- Ground Segment research
- Mature current thinking by wider engagement
- Demonstrate significant terrestrial spin off



## Summary and Contacts

### Drive down space science costs

- Synergy with Oil and Gas exploration
- Pull through from Gaming Technology

### Academic collaboration

- Currently in discussion with Dr Ian Crawford (UCL) and Dr Andrew Coates (MSSL)
- Welcome broader engagement

### Contact us

- Andy Hide
- T: +44 (0)1372 759735
- M: +44 (0) 7866 560239
- E: [Andrew.Hide@logicacmg.com](mailto:Andrew.Hide@logicacmg.com)