

# Investor visit to Roke 6<sup>th</sup> October 2011



Counter-IED



Countermeasures



Munitions



Pyrotechnics

# Disclaimer

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# Chemring Group



Chemring Revenues

£115m

£196m

£116m

£170m

Global Market

£3bn

£390m

£6bn

£1.6bn

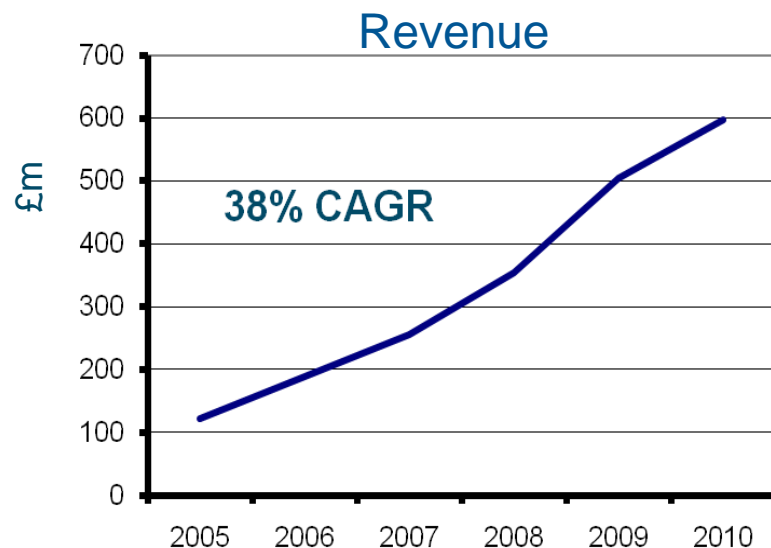
Chemring Market Share

c.4%

50%

3%

11%



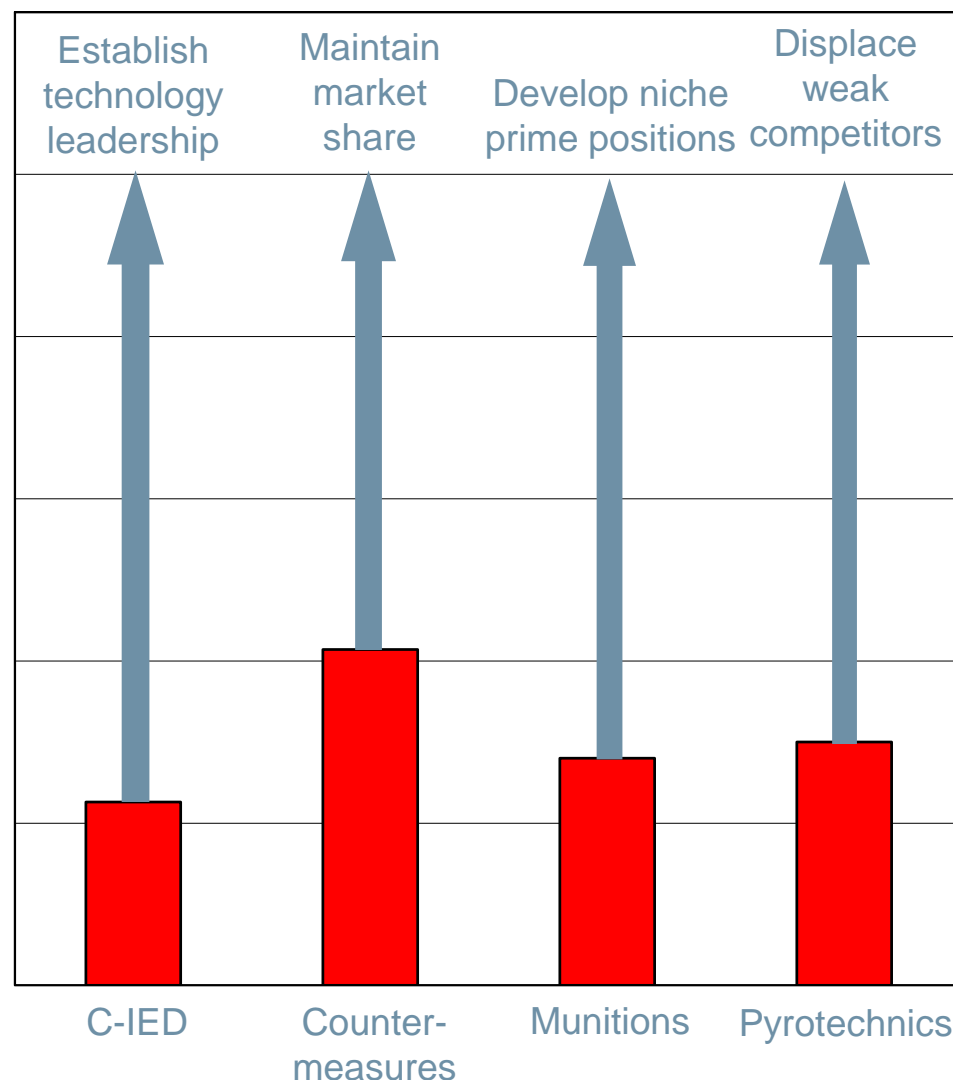
## Chemring at a Glance

- Short cycle businesses
- Short product development timescales
- Balanced mix of organic & acquisitive growth
- High margin, niche growth
- 2010 Revenues: £597m; underlying PBT: £117m
- 4,500 employees
- Sales to 80 countries around the world
- 24 facilities in 8 countries

# Core Strategy

## Strategic Intent:

- Excellence in core competences
  - Energetic materials
  - High product reliability and integrity
  - High volume manufacturing
  - Growing dependence on electronics
- Balanced global geographic market profile
- Expand Pyrotechnics
  - ...become undisputed World Leader
  - ...new products transform user operations
- Counter-IED
  - ... be a World Leader in detection & neutralisation
  - ...maintain lead in GPR and jamming technology
- Develop a strong Munitions business
  - ...be a supplier of choice for Munition Primes
  - ...be a niche Prime Contractor
- Maintain world lead in Countermeasures
  - ...exploit lead in SMD, spectral & thrusted flares
  - ...be the leader in naval launchers and rounds
- Consolidation for synergy & critical mass



# Growing Dependence on Electronics



## C-IED

- HMDS combines advanced sensors and algorithms for high P(d) and low FAR
- Chem / Bio detection integrates best-in-class detectors
- Remote initiators require high integrity RF protocols for safety and reliability

## Countermeasures

- Naval decoys apply electronically sequenced initiation for precise deployment
- Centurion Launcher is based in high integrity hardware and software
- Next generation RF decoys with broad-band DRFM technology
- Land EW uses advanced antenna design, miniaturised fast electronics and software to create timely Electronic Intelligence



## Munitions

- PAC-3 ESAF uses low and high energy electronics for warhead / self destruct
- Naval ammunition uses electronically programmable proximity fuzes to improve
- Precise electronic initiation for advanced warheads

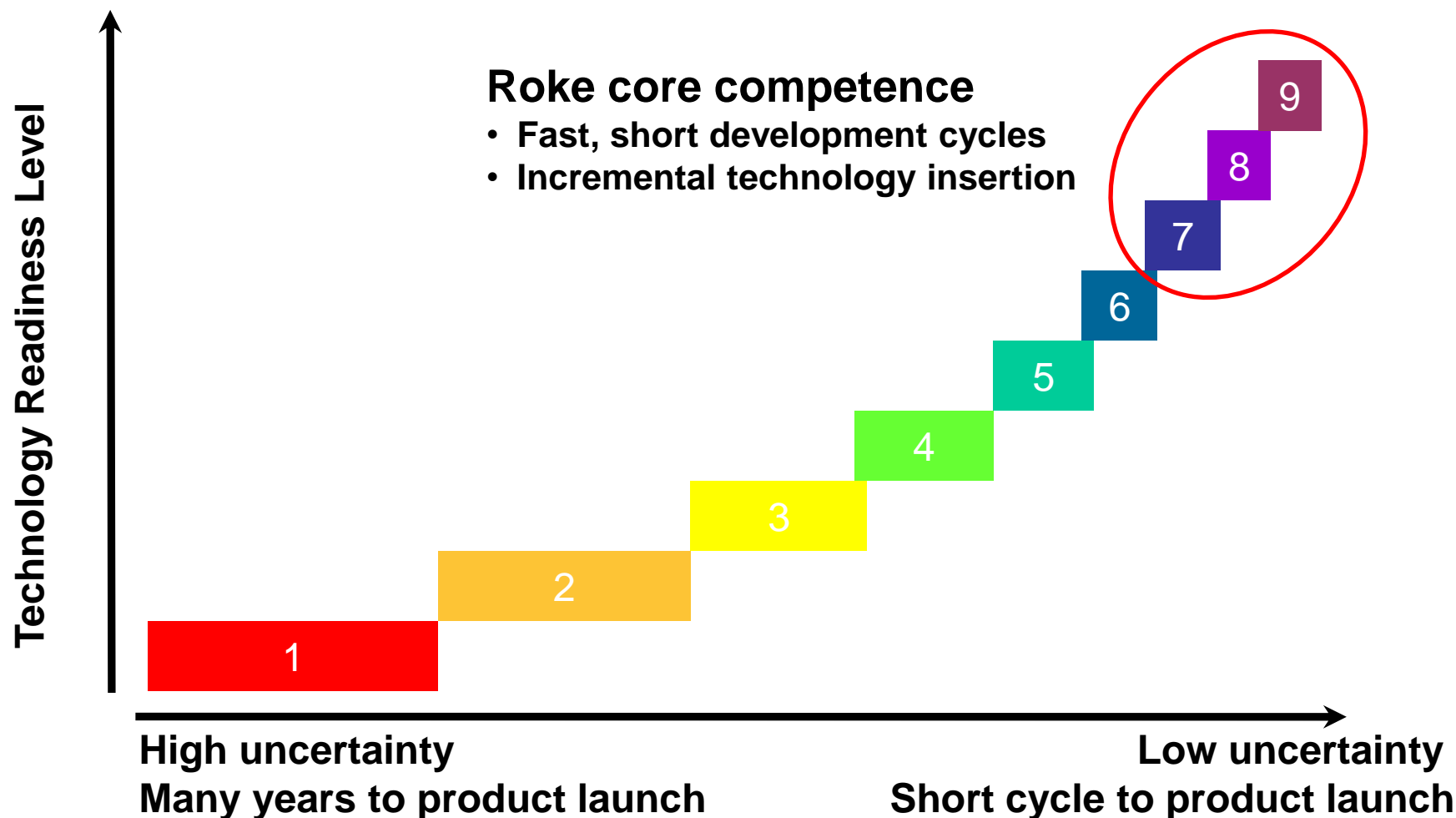


## Pyrotechnics

- Ejection seats require very high power density from energetic materials, combined with the precision of electronic sequencers and delays
- Battlefield simulation uses electronic launchers to safely deploy a range of effects for realistic training

**40% of Chemring's business is electronics**

# Roke is a Short-cycle Business



# Roke Developments– C-IED



## Detect

- Hand-held anomaly detector
  - UK lead customer
  - Position for £400m UK Route Clearance Programme 2014 – 18
- High-speed processing & algorithm development for non-ITAR explosive / chemical / biological detection



## Disable

- Brings capability to jam Radio- Controlled IEDs
- UK technical champion
- Maintain technical leadership
- Develop “5-eyes” and export variants



## Defeat

- Frequency hopping, secure codes
- Anti-jam / intercept communication



# Roke Developments – Countermeasures



## Next Generation RF Decoys

- Broadband expendable jammer for combat aircraft
- Low cost broadband jamming system to displace Nulka



## Centurion

- Electronics and operational software
- Key interfaces with combat management systems



## Become world leader in £300m COMINT EW market

- Dismounted operations – e.g. Resolve
- Vehicle mounted – e.g. Landseeker



# Roke Developments – Counter-Terrorism

## Managed Services

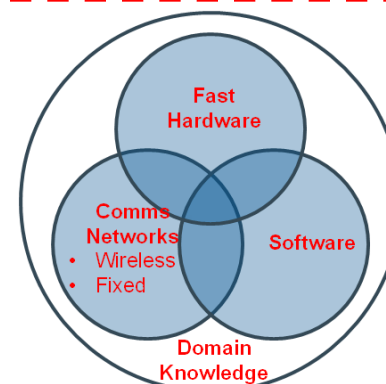
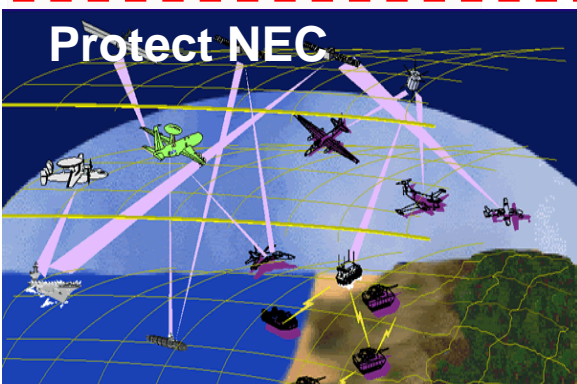


## Network Monitoring



**Lawful Intercept,  
Anomaly Detection  
Next Generation IA**

## Protect NEC



## Spin-in to Group

- 
- The diagram illustrates the Roke Development Hub ecosystem. At the center is a dark blue diamond labeled "Roke Development Hub". It is connected to five other nodes: "CM" (top-left, dark blue diamond), "C-IED" (top, dark blue diamond), "CT" (top-right, light blue diamond), and two unlabeled light blue diamonds (bottom-left and bottom-right). The nodes are arranged in a circle, connected by a black line. Three large red arrows point outwards from the hub: one to the left, one to the right, and one downwards. These arrows are associated with the following text:
- to Group Companies Segments**
  - Spin-out**
    - External partners
    - VC funding
  - Technology for Group Companies**
    - Europe
    - US
    - JVs
- Two curved blue arrows also point from the hub to the "CM" and "CT" nodes.

- **Roke at the centre of a constellation of technology businesses**
- **Provide technology capability to all Group companies including joint ventures**
- **Incubate growth opportunities**
- **Build spin-out / spin-in culture**