

Redefining wheeled armoured vehicle mobility

Imagine breaking away from the traditional picture of slow moving heavy tracked armoured vehicles to lighter, faster, more agile and highly fuel-efficient platforms; designed to operate at very high tempo, well within the enemy's decision cycle and with increased survivability through agility, terrain access and tactical manoeuvrability.

This is the vision being realised as part of the Defence Science and Technology Laboratory (Dstl) and its Mounted Combat Systems research project. A key component of that research has been joint activity between Dstl and global integrated defence and security company, QinetiQ.

Focused on research and risk reduction, the programme aims to significantly enhance the mobility of wheeled military vehicles through the introduction of a number of innovative technologies and design approaches.

Future armoured vehicles will need to operate at a much higher tempo if they are to be effective and survivable on the future battlefield, characterised by deep effects and short 'sensor to shooter' links.

In this context the advantages of wheeled vehicles over tracks are well known; they provide improved ride, higher speeds, higher reliability and fuel efficiency; however traditionally they have lacked the terrain accessibility of tracked platforms which constrains freedom of movement.

One of the key technologies that enables this approach is electric drive. Dstl and QinetiQ are harnessing this capability, taking advantage of the flexibility it can provide to develop high performance active suspension solutions, which not only have long travel and variable ride height but a geometry that allows the wheel base and track to be altered.

In addition, the exploitation of individual wheel torque control provided by QinetiQ's hub drive technology and all wheel steering strategies further enhance stability and off road performance. The resulting technology solutions can provide vehicles with some enhanced and even unique capabilities, including:

- provision of a compact configuration for transportation or operation in urban areas
- good stability at high speeds or on side slopes
- enhanced step climbing
- enhanced gap crossing
- improved soft soil mobility, especially when operating in convoys
- stable and low vibration crew and weapon platform
- ride height that can be optimised for low silhouette or mine stand-off

To demonstrate the potential functionality and capability of novel mobility

solutions, Dstl and QinetiQ have built and are progressively upgrading a 1/3 scale 8x8 demonstrator platform – called the Mobility Test Rig (MTR).

[Mobile Test Rig – QinetiQ and Dstl](#)

The aims of building the rig have been to address the key challenges of suspension and drive control software, sensor performance and maximising off road performance.

The MTR in its current build standard will be on display at QinetiQ's stand at industry trade show, DSEi (stand H7 – 510). It has fully articulating suspension, QinetiQ electric drive, advanced multi-wheel steer and wheel traction control. Following this showcase, the final stage of fitting sensors and implementing the full active suspension capability will take place.

The MTR has been presented to the British Army and the significant impact on the capability of future land platforms is recognised.

Plans are being discussed to fully exploit the potential of the technology for near term platforms and in the longer for concepts that are starting to be explored as part of Project Mercury.

Mike Sewart, CTO at QinetiQ, explains:

We have been highlighting the importance of Mission-Led Innovation and this is a perfect example of that approach in practice.

Two years ago we announced this joint research programme. Through a highly focussed programme of innovation, implemented with a clear outcome in mind, in just 24 months we have, alongside a strong ecosystem of partners, designed this demonstrator to showcase how electric drive is a key enabler for future armoured wheeled vehicle success in land environments.

William Suttie, the Dstl technical lead said,

This project is not just about improving the off road mobility of wheeled platforms but has the potential to transform how future armoured vehicles are designed and used.

The ability to move quickly and safely across all types of terrain and provide a stable platform so the crew can operate effectively on the move will enhance tempo and operational freedoms and contribute significantly to survivability.

Secretary of State for Northern Ireland opens Northern Ireland Business and Innovation Showcase in London

Leading companies from across Northern Ireland are showcasing their products, services and expertise in London today (15 September) as part of a high-profile Northern Ireland Business and Innovation Showcase.

Organised with support from the Department for International Trade and Invest Northern Ireland (INI), the Showcase will create opportunities for Northern Ireland organisations to network with international companies, governments and investors to create business opportunities, boost exports and investment into Northern Ireland.

The event at the QEII, which is being opened by Secretary of State for Northern Ireland Brandon Lewis, is a highlight of the Northern Ireland Office's Centenary programme to mark 100 years since the foundation of Northern Ireland.

It follows a Number 10 reception hosted by the Prime Minister Boris Johnson this morning (15 September) and a City of London Corporation reception at London's Guildhall to welcome Northern Ireland businesses to the capital last night.

In total, 28 Northern Irish organisations will be exhibiting in the business showcase exhibition, including Northern Ireland's two universities, Queen's University Belfast and Ulster University. The exhibitors represent a cross section of the key sectors within the Northern Irish economy, including financial services, fintech, health and life sciences, ICT, advanced manufacturing and cyber security.

Welcoming the event's opening, Prime Minister Boris Johnson said:

"Today I will welcome businesses from across Northern Ireland to 10 Downing Street as they showcase their products and services to new markets, from the Tayto crisp to vital healthcare products helping doctors carry out lifesaving work.

"This year we are celebrating the huge contribution Northern Ireland has made to our country over the past 100 years and looking ahead to the enormous potential of its employers and innovators.

"The UK Government will continue to promote Northern Ireland interests to help boost investment and jobs as we build back better from the pandemic."

Secretary of State for Northern Ireland Brandon Lewis said:

“I am delighted to welcome such a large number of Northern Ireland businesses from a variety of sectors to London to showcase their innovation, expertise and quality products.

“This Showcase is an ideal forum to show the positive contribution of Northern Ireland firms to the UK economy, and reinforces the UK Government’s commitment to build back better by creating opportunities for businesses to flourish through trade.

“It is particularly fitting that this Showcase, hosted by the Northern Ireland Office, is happening in Northern Ireland’s Centenary year, as it symbolises all that is positive about today’s Northern Ireland and its ambitions for a bright and prosperous future.”

First Minister of Northern Ireland Paul Givan said:

“Northern Ireland is a fantastic place to live, work and invest. I’m pleased to be here as First Minister to mark both Northern Ireland’s 100-year history and its tremendous potential for the future.

“Today it is a place of innovation, looking forward with optimism to tomorrow’s opportunities. The businesses and organisations present at this showcase are a representation of that vibrancy and creativity, and I applaud all those involved in this wonderful event.

“Across government, industry and a wide range of stakeholders, we are working collectively to enhance Northern Ireland’s reputation on the global stage.”

Northern Ireland Economy Minister Gordon Lyons said:

“Northern Ireland has a prestigious and storied history of innovation and global business success, and is now well established as a global leader in new and emerging fields like cyber security, fintech and advanced manufacturing.

“My Department’s 10X Economic Vision charts the course for building on our successes to date and maximising our many strengths to make Northern Ireland one of the world’s leading small economies.

“We will invest in our people, upskilling and reskilling for the jobs of the future, and focus our energies on investing where the positive impact will be greatest.

“This is an exciting time for Northern Ireland as we work together to create an even stronger economy for the benefit of everyone in society.”

Chief Executive of Invest NI Kevin Holland said:

“The Northern Ireland Business and Innovation Showcase in London is a fantastic platform for our exhibiting businesses to promote their world-class

products, services, skills and innovation to potential new buyers and investors.

“We look forward to engaging with them and promoting Northern Ireland as a place for business growth and excellence.”

In addition to established firms, 12 startups and innovative companies will have the opportunity to highlight their services on an Innovation Platform, demonstrating that NI is leading the way with innovation and is a great place to invest, partner and do business.

Tourism NI will also host an area of the exhibition hall to showcase the very best of NI locations, hotels and tourist attractions.

As well as the exhibition and the innovation platform, the Showcase will feature keynote speakers, such as Northern Ireland’s Special envoy to the US Trevor Ringland, who will give a speech on Foreign Direct Investment. There will also be panel sessions on cyber security, innovation in Northern Ireland, creative industries, financial services, foreign direct investment and women in business in Northern Ireland.

Dstl announces armoured UGV concept study at DSEI

The Defence Science and Technology Laboratory (Dstl) has initiated a study into future Uncrewed Ground Vehicle (UGV) concepts to explore cost effective solutions to protect UGVs from threat and provide specific armour and technology that will ensure high levels of mobility, survivability and mission availability to support crewed platforms in battlefield warfare.

The work has been carried out in conjunction with a consortium led by RBSL with Prodrive, ARKE, ThinkCreative, Cranfield University and BAE Systems as key partners, and was announced at the 2021 Defence and Security Equipment International (DSEI) trade exhibition.

The concept study has focused on 2 timescales: the near term which addresses solutions that could be realised using currently available or mature technologies, and the longer term looking at technologies that are likely to be available 10 years or further ahead.

The focus has been on medium weight platforms, around 2 to 5 tonnes, which have been the subject of a lot of interest due to the useful payloads they can carry.

Dstl’s Matt Ackroyd is the project lead and said:

When Uncrewed Ground Vehicles were first fielded it was usually for dangerous tasks such as deactivating or destroying Improvised Explosive Devices with the goal of removing the operators from harm's way and accepting the device itself was at risk of damage or destruction.

As thinking on the use of UGVs evolved the focus moved to so called 'Dull, Dirty and Dangerous' tasks such as route proving, contaminated ground reconnaissance and decontamination.

Today the trend is towards the use of UGVs as platforms for key combat capabilities such as resupply, casualty evacuation, reconnaissance, weapons platforms, decoys and communication nodes.

Therefore UGVs are becoming core elements of a deployed capability and will be carrying expensive assets. If they are to support missions across the full spectrum of operations they must be able to fully protect and keep station with the crewed platforms they support.

A key challenge of the study has been improving the mobility and survivability of platforms without compromising payload. Further challenges arise from the desire to provide an amphibious capability for river crossing and littoral operations.

In order to meet the demanding, and conflicting requirements, novel modular concepts have been developed which would allow platforms to be configured in theatre to meet specific mission requirements. In order to meet the mobility requirements and enable the smaller UGV platforms to keep station with larger crewed platforms, novel wheel and tracked suspension systems have been designed and modelled.

Dan continued:

This is very exciting work. As well as enhancing mobility the novel suspension systems significantly improve the ride and hence improve reliability and provide a stable sensor and weapon platform.

The use of armour protection for key components and enhanced signature management systems to exploit the benefits of the small platform size have been explored along with weight and cost effective means to provide robustness, redundancy and fall back modes.

The concepts are now being benchmarked against the performance of best in class current UGVs and their operational use explored in synthetic environment based experimentation.

Greater cooperation for the success of Sudan's transition

Thank you Madam President. Let me begin by thanking Special Representative of the Secretary-General Perthes, Ms. Hala Alkarib and Ambassador Jurgenson for their briefings. I would like to make three key points in response to what we have heard.

Firstly, I would like to join Mr. Perthes in recognising and commending the significant and continuing progress towards a more peaceful, prosperous and democratic Sudan. We welcome Prime Minister Hamdok's initiative of 22 June and encourage the buy-in of all parts of the government.

We also commend the deepening cooperation between the Government and the International Criminal Court, particularly the recent visit of the Chief Prosecutor and the decision of the Sudanese Cabinet to transfer indictees to The Hague.

Secondly, I want to acknowledge that despite this progress, significant challenges remain. Commitments are welcome but these need to translate swiftly into concrete actions that improve the lives of Sudanese civilians.

Increased intercommunal clashes, particularly in Darfur, are concerning. The plight of over 300,000 civilians displaced so far this year demonstrates the urgency of tackling intercommunal violence.

Ms. Alkarib has just given us a powerful account of the plight of women in Sudan.

So, we urge the Government to expedite implementation of their National Plan for Civilian Protection and other efforts to prevent and reduce violence at the community level, including violence against women and girls. In this regard, we welcome the Sudanese Police Force's engagement with UN Integrated Transition Assistance Mission in Sudan (UNITAMS), and the formulation of a 'one-UN' Protection of Civilians strategy to support the Government's efforts.

We also urge the Government to build on the initial progress made in implementing the Juba Peace Agreement. We echo the Secretary-General's call for the timely formation of the Monitoring and Evaluation Mechanism and urge the swift establishment of the Peace Commission.

In July, the Special Envoy of the United Kingdom and his US and Norwegian counterparts joined Mr. Perthes to visit areas under control of the SPLM-North al-Hilu in support of peace talks.

We welcome the talks between the Government and the SPLM North al-Hilu

faction and continue to call for their swift resumption. We commend the role of UNITAMS in facilitating these talks, in particular efforts to strengthen women's meaningful participation and inclusion.

I reiterate our call for those who remain outside the peace process to engage in it swiftly and without pre-conditions.

Thirdly, Madam President, it is clear that for the Government of Sudan's efforts to be sustainable, they must be underpinned by a significant investment in peacebuilding. That is why the United Kingdom has provided early contributions to the Sudan Peace Fund.

We commend the peacebuilding support already being provided to Sudan by UNITAMS and the UN Country Team. In order to inform our future deliberations we encourage Mr. Perthes to share findings of the mission's state-level peacebuilding assessments with the Council.

A joined-up approach across the UN system in conducting these assessments, and in delivering its support to Sudan, will be crucial to maximise resources and impact.

In closing, Madam President, the United Kingdom encourages continued partnership between the Government, UNITAMS, international partners and all stakeholders for the success of Sudan's transition.

Thank you.

[MHRA statement on COVID-19 booster vaccines](#)

News story

Regulatory updates by the MHRA today on the COVID-19 booster vaccine programme for winter 2021 to 2022



Dr June Raine, MHRA Chief Executive said:

We are committed to getting safe and effective COVID-19 vaccines to the UK public. This means ensuring that existing COVID-19 vaccines can continue to be used in the most effective way possible.

We confirmed on [9 September 2021](#) that the COVID-19 vaccines made by Pfizer and AstraZeneca can be used as safe and effective booster doses. This is an important regulatory change as it gives further options for the vaccination deployment programme which has saved tens of thousands of lives.

The regulatory decision followed a careful review of available data on safety and effectiveness of booster or supplementary vaccine doses by the MHRA and the independent [Commission on Human Medicines](#) (CHM, which advises the government).

We have also now looked at data for the Moderna vaccine to be used as a booster, and this has also been reviewed by the CHM experts who concluded that the Moderna vaccine can be used as a safe and effective booster dose, including in a half dose, which also gives an effective boost to antibodies.

The CHM took into account data on waning vaccine effectiveness after the second dose, providing important insights into potentially waning immunity.

The data reviewed showed that giving the booster jabs with flu vaccines at the same time is safe and does not affect an individual's immune response to either vaccine. Therefore COVID-19 booster doses may be given at the same time as flu vaccines.

We have in place a comprehensive safety surveillance strategy for monitoring the safety of all COVID-19 vaccines and this surveillance includes booster jabs.

As with first and second doses, if anyone has a suspected side effect, please report it to us using our Yellow Card scheme.

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