EVERY GENERATION has its ‘where were you when...?’ moment. These moments are often the start of a chain of events so important that the world is tangibly different from then on. For one generation it was the assassination of President Kennedy on 22 November 1963. For another it was the attacks of 11 September 2001 on New York’s World Trade Center, the Pentagon in Virginia and an unreported target in Washington DC.

Those attacks led to the declaration of a ‘war on terror’. As well as frontline operations in Iraq and Afghanistan, this meant a rethink in many defence departments and more draconian security measures to prevent further terrorist attacks.

Ten years on, Osama bin Laden is dead, and governments are making plans to pull back from Afghanistan. Citizens of the Middle East have risen up and overturned some governments in an extraordinary ‘Arab Spring’, but some rulers hang on by force. Economic crisis means defence and security budgets are being slashed.

Our special defence and security report which opens on p27 examines what all this means for the future of the industry and the engineers working in it.

Guy Anderson takes in the big picture for the defence industry on p28. He looks at who’s buying and who’s selling, the many losers in major defence projects, the few winners, and what the effect will be for defence and other engineering companies in the UK and elsewhere.

Unmanned Aerial Vehicles (UAVs) or drones have become widely deployed in conflicts against Islamists. On p34 we publish the views of which UAVs are being used where and the future technologies of these pilotless aircraft. Will more autonomy raise an ethical dilemma under the Geneva Convention? Sean Davies explains on p38.

We have all had to get used to much heavier security measures in our lives, particularly at airports. But it’s about to get better: Pelle Neroth looks at the layered security technologies under development in Europe’s research labs, and paints a picture of what it will be like to check in at an airport 20 years after 9/11.

Another emerging field is that of ‘cyber warfare’. The latest James Bond novel updates the spy for the 21st century in more ways than one, as IT takes over from weapons in Q’s gadget arsenal. How real is this fiction? Chris Edwards delves into the new espionage world on p53.

In our special, we also take apart the Kalashnikov to find out what has made it the most successful rifle in history (p44) and pick the ten most extraordinary weapons ever developed (p49).

Finally, we go back to New York and interview the designers of the new One World Trade Center (p56), which will rise from the site of the old. We find out how they redesigned it to be bigger, stronger and safer – even to withstand a terrorist attack like that of 9/11.