

A New Market Takes Shape

by Ralph Thiele

Drivers of Development

World-wide cross-functional security tasks have long become drivers of a development towards a networked, highly reactive integrated security system.

The lush green meadows to the south west of Kleinhadersdorf – near the Austrian border with the Czech Republic – lie unspoilt under a bright blue spring sky on 25 April 2008 at 7:00 a.m.. Only a few cirrus clouds point to a looming storm the next morning. Two hours later nothing of this peaceful scene remains.

Targeted dynamic activities on the ground and in the air. Operations command of the Lower Austrian Fire Service TULLN has set up its control centre on the meadow. Tents and generators are ready for action. A heliport has been launched alongside satellite and downlink receiver systems of Graz Technical University, the Joanneum Research Society and Diamond Aircraft Industries. Against the grey clouds, fire service and army helicopters set the skies abuzz.

Suddenly, noiselessly four impressive DA 42 MPP aircraft catch the eye, swooping in a diamond formation over the training ground – each of them individually equipped with a state-of-the-art mix of sensors including cutting-edge communication equipment.



The twin-engine diesel-powered DA42 MPP developed by Diamond Aircraft Industries (Austria) and made of a composite material can be flown with or without a pilot. MPP stands for multi-purpose platform. The DA42 MPP is already being successfully used for television coverage of sports events and for intelligence and surveillance tasks in the field of domestic security and frontier protection.

This morning is dedicated to a flight assistants' training of the Lower Austrian Fire Service in forest fire fighting and flood protection. For the first time operations command is supported by a research/industrial team with airborne surveillance and intelligence capacities,¹ with sensors, situation profile and communication capabilities that civilian and military users in charge of public private security world-wide can only dream about. Two federal ministries are also involved: the defence ministry and ministry of the interior.

As part of the exercise, security researchers demonstrate major additional capabilities:

- Detection of forest fires and dam water penetration
- Identification of staff and persons trapped on the ground
- Control & monitoring of mission success
- Evacuation of endangered persons and staff to safe areas by steering escape movements on the ground.

The infrared, scanner, photo and video data in HD quality are not only available to local operations command. The TULLN Fire Service also receives a georeferenced real-time situation profile tailored to the users.

Increasing Demand

The Kleinhadersdorf exercise is just one example of the huge increase in networked challenges and possibilities in the field of public private security. World-wide cross-functional security tasks, which also involve NGOs, have long become drivers of a development towards a networked, highly reactive integrated security system. Trend analyses show that new rapidly growing markets and novel possibilities are emerging to meet increasingly demanding customer expectations.

Innovations in the field of networked security can be expected to create a double-digit billion market, which will even become a triple-digit market before the middle of the next decade in Europe alone. This market is still dominated by public-sector players. But there are already signs that demand from companies and private persons for airborne security equipment will gradually see a dynamic growth. This has spawned a structural change that will leave its mark on virtually all levels of business and society.

New Problems, New Solutions

Transformation is sparked by the insight that we must move faster, more flexibly and more successfully than before in a complex dynamic world. Complexity and dynamism are the key features of global developments of the early 21st century. Security and prosperity in the public and private sectors face similar challenges:

¹ As part of Austrian security research the research/industrial aims to develop a high-performance aerial surveillance system to identify threat potentials and survey and assess crisis situations with the PUKIN – Periodical Surveillance of Critical Infrastructure - project. The project is being conducted as part of the Austrian KIRAS security research programme, an initiative of the federal ministry of transport, infrastructure and technology. The Kleinhadersdorf exercise is one of four select operation scenarios.

- Tasks of domestic and international security are converging and require a novel security architecture, marked by a consistently cross-functional networking of all public and non-public players.
- The range, performance and variety of employable intelligent sensors and weapon systems/instruments are rapidly expanding. The intended result of our own actions is decisive. Based on this, we have to think backwards: What must I do to achieve the desired results?
- Requirements for information needs, management and security are rising dramatically: The goal is impact superiority based on information and leadership superiority.
- Innovation and speed are indispensable for modern security concepts and the answer to increasingly asymmetric threat situations.

The general acceleration of innovation cycles rapidly leads to new problems, but also to ever new solutions. Economic developments show where the trend is heading for. Due to the information revolution not only has competition become even more intense but corporate processes have also accelerated drastically and production or service performance processes have seen fundamental changes. The real-time company that is informed about sales in all its branches by the end of the day and can probably realign its product development accordingly, is now a reality just as much as the development processes that can span several continents within 24 hours, enabling disruption-free processes.

For industry networked security means that it must improve its own capability of developing networked interoperable products that can be integrated in networked systems. Due to changed market conditions industry must closely collaborate with customers, focusing consistently on innovation and further development, e.g. by integrated customer-supplier teams on a national but also international scale. Public private partnership and turn key solutions will gain importance.

For security forces modern sensor and communication technologies, radar, GPS transmitters, and video images from UAVS, satellite surveillance and Blue Force Trackers – to name a few – have radically increased the complexity of the situation profile, while just as radically reducing the time needed for sound decisions. Time plays a prominent role if one wants to prepare successfully for coming challenges, ward off risks and take advantage of emerging opportunities.

Operational Airborne Devices

The inherent flexibility and mobility of aircraft predestine them especially for time-critical, networked security tasks. Their inconspicuous omnipresence combined with an explosion of technological developments, e.g. in composite materials, drives and sensors and in the field of information and communication technologies and for data and image integration or fusion make them suitable for countless fields – in particular for surveillance, intelligence and security tasks. Aircraft are easily available. If need be, they can remain operational for long periods of time. Compared to terrestrial sensors they can monitor a huge territory with extreme precision and transmit intelligence data to a command centre composed of a variety of staff with real-time capabilities.

The global security market has long reacted to this development. A growing need for flying – even unmanned – platforms is foreseeable. New programmes are being launched by virtually all major international companies and additionally by countless medium-sized enterprises. In

particular, aerial platforms are currently being launched on the market or prepared for the market that are suitable both for civilian and military security and stabilisation tasks. This includes commercial purposes as well as rescue services and disaster relief – despite remarkably low investment and operating costs. All state bodies and lower-ranking agencies and security forces but also NGOs can help themselves there. For they – primarily - need affordable solutions for the most urgent security tasks tailored to the mission responsibilities of the security forces – in a networked, cross-functional context.

Foresight

It is of great importance to identify major and long-term trends early on, to draw the right conclusions and implement them. On the evening after the Cannonade of Valmy Johann Wolfgang von Goethe said in a circle of Prussian officers who had gathered around him: *"From this place, and from this day forth begins a new era in the history of the world, and you can all say that you were present at its birth."* Maybe a new era has also started in Kleinhadersdorf!

Remarks:

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