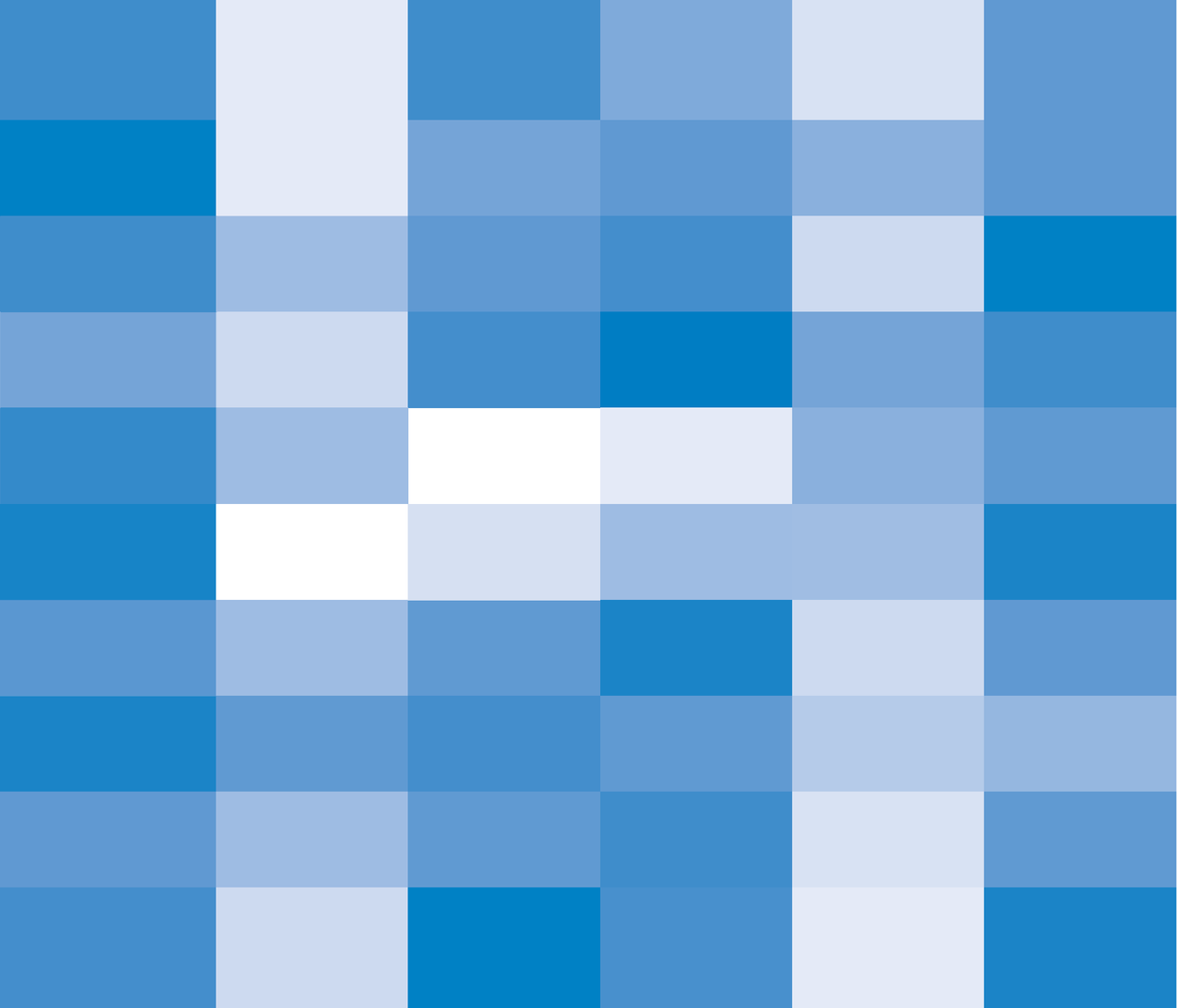
# STRAIGHT TO THE POINT

HungaroControl



HUNGAROCONTROL STRAIGHT TO THE POINT

# CEO's Welcome

Dear Reader,

The world's air traffic has rebounded after the recession created by the economic crisis.
According to EUROCONTROL data, 9.8 million flights were operated in Europe in 2011 and this figure may double within the next two decades. This poses huge challenges to air navigation service providers. Capacity utilisation has to be optimised so that the maximum number of aircraft can be controlled safely to their destinations on the shortest possible route, that is, as fast as possible and at the lowest cost. It is the only way to improve the efficiency of flights and sustain the development of air traffic.

We are convinced that this goal can only be achieved via the Single European Sky integration programme, by collaboration, joint deliberation and concerted action. The European States together and individually have to ensure their ability to improve their services regarding capacity, cost-efficiency and precision, as well as safety and environmental protection. All of these require large-scale developments and investments. HungaroControl is determined to serve the integration with its state-of-the-art technology, its extensive experience in training and simulation, as well as through research and development.

Each business decision and joint development in cooperation with our partners is driven by the aim of enabling the Functional Airspace Block consisting of seven Central-European countries (FAB CE) to become one of Europe's best Functional Airspace Blocks.

With this in mind, we have carried out significant developments in the past years and plan to accomplish more in the following years. Our publication presents our accomplishments which will hopefully be beneficial to our customers, airlines and their passengers, as well as our professional partners and the service providers of the Central-European Functional Airspace Block.

**Kornél Szepessy**
CEO, HungaroControl

# Conductors of flights

Civil aviation dates back more than a hundred years in Hungary. Air traffic control and the international airport near Budapest, commissioned in 1950, had been operated for decades by a single organisation, until they were separated in 2002. As a result of the establishment of Budapest Airport and HungaroControl, air transport became an activity with multiple participants in Hungary, in line with the model adopted widely in global air transport. The Hungarian air navigation service first operated as a separate budgetary institution and then, in 2007, it was transformed into a private limited company with the Hungarian State as its single shareholder. The rights of the founder and owner are exercised by the Minister of National Development. HungaroControl – an employer of more than 700 people – is one of the most successful state-owned enterprises in Hungary. It operates without budgetary support, in a balanced and profitable way: its annual revenue amounts to nearly HUF 29 billion.



# HungaroControl's tasks

HungaroControl provides navigation services in Hungary's air space and it offers basic and advanced training for air control personnel. Some 600,000 flights are controlled by the Company each year, about 80% of which are overflights across the territory of Hungary, while some 90,000 flights land at or take off from Budapest Liszt Ferenc International Airport. Accordingly, during the busiest periods an aircraft enters Hungary's air space once every 30-40 seconds. The busiest day in HungaroControl's history was 1st August 2010 when 3255 aircraft were handled by the air traffic controllers in a single day.

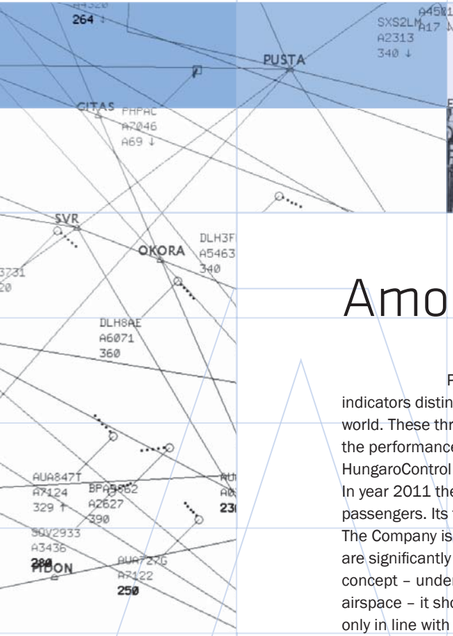
HungaroControl provides outstanding services for airlines using Hungary's airspace – and the work of its highly trained professionals, assisted by world class technological solutions, has earned worldwide recognition. Moreover, HungaroControl also has remarkable traditions in training, simulation, and research and development, on the basis of which, in cooperation with its professional partners, it intends to create Central Europe's dynamically developing air navigation centre in Budapest during the coming years.

# Professionals in the air
## and on the ground

HungaroControl guides air traffic in Hungary's controlled airspace through the tower control unit at Budapest Liszt Ferenc International Airport, the approach control service around the airport, and the area controllers in all other parts of Hungary who are on duty 24 hours a day, 365 days a year. For those flying in uncontrolled airspace and for users of the airports near Debrecen and Sármellék, HungaroControl provides flight information services. In addition to its air traffic control activities, the Company performs a variety of other tasks as well. Its airspace management team makes decisions on airspace users' requests while the flow organisers make sure that the number of aircraft intending to enter Hungarian airspace at any one time does not exceed the number that can be safely controlled with the available human and technical resources. Moreover, HungaroControl is coordinating the optimum utilisation of the capacities of the Ferihegy airport, it provides comprehensive air traffic information for flights as they are landing or taking off and it supplies real-time weather information for pilots.

# World class
## technology

HungaroControl carries out its tasks with the aid of cutting edge technical facilities and technologies. Hungarian air traffic controllers are organising Hungary's air traffic using the MATIAS system, a technology developed by HungaroControl from Europe's leading navigation software, which has become the world's most up-to-date controlling and information system. Complex radar systems installed in Budapest, Kőrishegy and Püspökladány – upgraded between 2006 and 2008 with EU co-financing – provide for the controlling of the air space and for the exact identification of the positions of aircraft. Moreover, a system controlling and directing movements on the ground guarantees the safety of air traffic at the Ferihegy airport. Air navigation is supported by a variety of communication systems, in addition HungaroControl is also running a considerable number of weather stations and a meteorological information system. The Hungarian air navigation service has launched a number of large-scale investment projects in order to retain its technical advantage. It is successfully achieving this by applying innovative solutions and by continuing to raise the standards of its air navigation services.





# Among the best in Europe

Precision, cost effectiveness and reliability: these are the key quality indicators distinguishing one air navigation service provider from another all over the world. These three criteria – supplemented with environmental protection – underlie the performance objectives for all European service providers to be met by 2014. HungaroControl already meets the main quality criteria prescribed by the European Union. In year 2011 the Company caused not a single second of delay to airline companies or passengers. Its flight safety indicators have also earned international recognition.
The Company is also among the best in terms of cost efficiency as its route unit rates are significantly lower than the European average. By implementing the 'free route' concept – under which pilots can determine where to enter and where to exit from the airspace – it shortens the length of the routes covered by flights. This approach is not only in line with the interests of airlines and passengers but it also contributes to sustainable development in air transport and to the protection of the environment.

# Single European Sky

Air transport has developed into a form of public transport: in 2011 as many as 9.8 million flights took place in Europe and the number of flights may even double by 2030. Driven by passengers and airlines requirements, in order to ensure efficient and smooth management of the growing traffic, the European Union has worked out the Single European Sky programme. The efficiency of air traffic control can be improved through standardising and harmonising the supervision of air spaces, by improving coordination between member states and by increasing the utilisation of the available capacities. This has been demonstrated by the example of the United States of America; in an air space more or less the same size as Europe, with less airspace sectors and less than a third of the control centres in Europe, some 70 percent more flights are controlled. The goal of the Single European Sky programme is to significantly improve the efficiency and competitiveness of air traffic control in the Continent. With this in mind, the work of the national air navigation services is to be more closely coordinated and the airspace, still divided along state borders, is to be integrated in larger regional units referred to as functional air space blocks.

# FAB CE
## Tuned to cooperation

At present, international flights are being ‘passed’ from one national air navigation service provider to the next along their routes, however, this system greatly contributes to delays and it increases the route length, thereby raising kerosene consumption. One of the basic concepts of the Single European Sky programme is that air transport can be more efficiently organised, controlled and supervised if navigation is not aligned to state borders but to the flow of traffic. This is the basis of the regional system dividing Europe’s air space into nine functional air space blocks.

HungaroControl, Hungary’s air navigation service provider is a member of the Functional Airspace Block Central Europe (FAB CE), together with the Austrian, Czech, Slovak, Croatian, Slovenian and Bosnian service providers. The international agreement setting the framework for cooperation was signed on 5 May 2011 in Slovenia. HungaroControl is an active member of the FAB CE community, contributing to its success with its initiatives.



# HungaroControl’s
## strategy

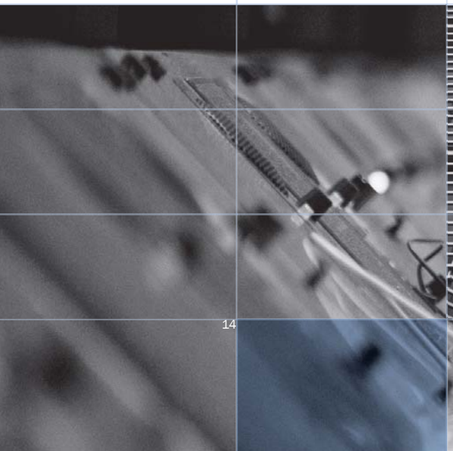
The implementation of the Single European Sky raises completely new challenges for air traffic controllers. The creation of the functional air space blocks demands coordination of the technologies and closer than ever cooperation between controllers. It also entails changes in a variety of procedures and processes. The increasing traffic and integration are also generating an increasing demand in education, research and development and simulation, while there is only a limited supply of suitable capacities across the whole of Europe.

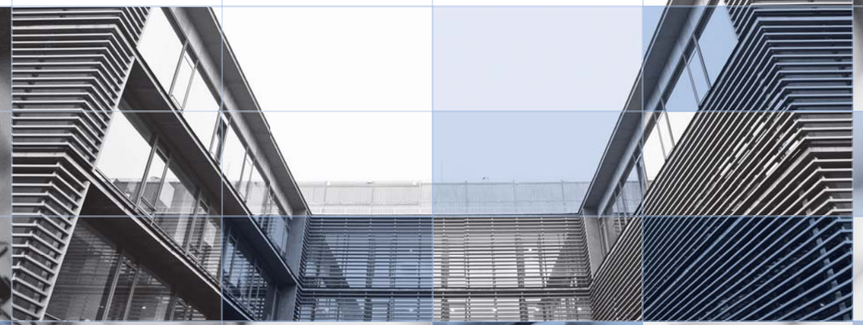
With its new strategy covering the next period up to 2015, HungaroControl is responding to the challenges with a complex company development concept. The three underlying pillars of the concept include optimising the operations of the Company, further developing the air traffic services and the infrastructure, as well as creating an international knowledge centre for training, research and development and simulation. HungaroControl aims to ensure that the Central European functional air space block is put in place and is operated at the highest possible standards, and that HungaroControl’s support of the professional development of the region and the outstanding quality of its services also contribute to the increasing international recognition of Hungary’s air traffic control.

Co-financed by the European Union
Trans-European Transport Network (TEN-T)

# ANS III
# State-of-the-art technology in Budapest

HungaroControl contributes to the improvement of the air transport infrastructure of Hungary and of the Central European region, by its new control centre of nearly 10,000 square metres and the most up-to-date technology. The total value of the investment project is HUF 13 billion, 85 percent of which is financed by HungaroControl's own resources. The European Union contributes an amount of nearly EUR 6 million through the Trans-European Transport Network Development Plan.
As the latest milestone in the implementation of the complex service development programme, the building of the new air traffic control centre referred to as ANS III was completed in August 2012. From early 2013, the personnel of the Hungarian air navigation service will be controlling flights in the Hungarian airspace from this new centre. With its control centre equipped with the most up-to-date navigation technology and communication systems, HungaroControl is one of the leading air traffic services of the region in terms of its technical and technological standards.





# MATIAS
## HungaroControl's own development at the lead

The replacement of the hardware facilities of the new control centre enabled HungaroControl to install the latest version of its air navigation information software called MATIAS - which has been continuously developed since 2004, and which has been made ever more efficient and effective by more than 200 new features to date. MATIAS is today one of the most up-to-date software systems in the world, the first one ever to be capable of processing information downloaded from aircraft onboard computers and displaying it to the controllers (Mode S technology). HungaroControl's and Thales Air Systems' joint development earned great international recognition, some of its elements have also been adopted or are planned to be introduced by other air navigation service providers.

Instead of the formerly applied so-called SSR code, the upgraded MATIAS system uses radio call signals transmitted from aircraft for identifying the various individual airplanes and for matching the position in space to the given flight route plan. The new call signal based identification scheme will be mandatory across the whole of the continent by 2020. As the first air navigation service provider in Central and Eastern Europe, HungaroControl is already using the new method. Another new feature of the system is that it will be able to display 'distance to go' information on the basis of the momentary position of an aircraft and its updated flight route plan. Moreover, the upgraded version of MATIAS is using the newly required flight plan format. HungaroControl will continue the development of the MATIAS system even after moving into the new ANS III building.



# ANS I
## Dynamically developing knowledge centre

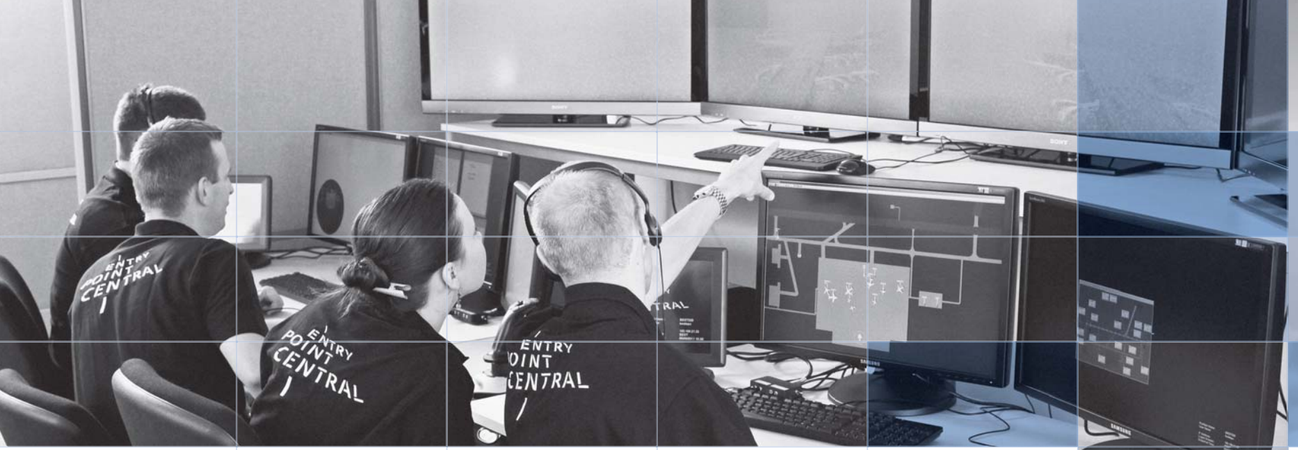
After the delivery of the new control centre, HungaroControl will refurbish the currently used ANS I building, equipping it with cutting edge technology to make sure that it is always available for air controllers as a reserve centre. This will make it possible to create Central Europe's only training and simulation centre under the aegis of HungaroControl, where any air traffic situation can be simulated in a technical environment identical to the functional operating room, in real time and with real data. Moreover, the ANS I facility will accommodate HungaroControl's three-dimensional tower and radar simulator, enhanced to 360 degree vision.

The construction of the new ANS III control centre and the continued development of the MATIAS system guarantee the long-term improvement of the Hungarian air navigation service, enabling HungaroControl to retain its technical advantage and laying down the groundwork for the development of its core business. In addition, the refurbished ANS I centre provides unparalleled training and simulation possibilities for Hungarian professionals and those from the region, contributing to the expansion of HungaroControl's service portfolio and to the achievement of its strategic objective, that is, the creation of an international air navigation knowledge centre.

# CRDS
# international simulation centre

The first of HungaroControl's projects in training, research and development, and simulation is the airspace simulation centre referred to as the Centre of Research, Development and Simulation (CRDS). Simulations that are indispensable for the development of the airspace structure and air traffic control, as well as to validate the theoretically safe navigation techniques and airspace modifications worked out 'on paper'. Also for working out new techniques and instruments and for the continuous training of air traffic controllers that can be executed with the help of the most up-to-date technologies in the innovation centre inaugurated on 10 May 2011.

There is only one simulation centre with similarly high capacity and level of development, near Paris, under the aegis of EUROCONTROL. HungaroControl's facility provides world class technical background, an international knowledge base and ample available capacity, as well as the possibility for cooperation for all air traffic services, professional and scientific organisations and researchers of the Central European region. In addition to the assignments carried out for HungaroControl, the first large-scale international joint undertaking took place in the spring of 2012 in the framework of an airspace modification simulation exercise for the Croatian service provider.




# Entry Point Central
## international training academy

HungaroControl, together with Entry Point North – the training centre of the Swedish, the Danish and the Norwegian air traffic services – opened a joint air navigation academy called Entry Point Central in 2011 in Budapest. In terms of professional content and training techniques, training in Scandinavia represents the highest standards in the world. Entry Point Central (EPC) in Budapest provides the same competitive knowledge, highly effective form of training and qualifications of high international prestige for the future generations of Hungarian air traffic controllers. One novel feature in comparison to the previous training system is that students can acquire practical knowledge from an early stage of training: already from the fifth week of the training programme they have access to EPC's simulator, and they are taken for training flights with Wizz Air, where they can view events taking place in the cockpit 'live'. The members of the first class completing their training received their diplomas in July 2012. The English language training fully meets the expectations and requirements of EUROCONTROL – the top organisation of air traffic control in Europe – thus from 2013 the air traffic academy will be open to trainees from other countries as well.



# NATO assignment and the opening of airspace
## over Kosovo

The North Atlantic Council called on Hungary on 13 April 2012 to open the high airspace over Kosovo and to control traffic in that airspace – this task will be carried out in late 2013 if all necessary conditions are met. The organisation of airspace control is not a political undertaking, rather, it is a strictly technical task, as commissioned by NATO. This commissioning is only of a temporary nature, it will last only until some other country or air traffic service obtains authorisation to take over air traffic control under an agreement concluded in the meantime. This assignment is a major accomplishment for Hungary's diplomacy and for HungaroControl, which will contribute to the efficient utilisation of the airspace of the region, the shortening of flight routes and to the cutting of fuel costs together with the reduction of pollutant emissions. As one of the most highly recognised and most dynamically developing air traffic services in the Central European region, HungaroControl has the necessary expertise and professionals for this task and it is also technically and technologically suitable to remotely control this sector.

# Innovation
## and science

Besides supporting a number of other higher education institutions, HungaroControl has been sponsoring and working with the Budapest University of Technology and Economics for years. This cooperation has resulted in the development of a piece of equipment for testing radars and a special analytical software product. The RadarTester equipment provides an early indication of technical malfunctions of various primary radar facilities. The Flight Profile Generator, identifies the flight route covered by aircraft as precisely as possible by eliminating the imperfections stemming from the operating principles of radar systems, it then displays corrected data in an animated form. The software helps improve flight safety and the training of air traffic controllers by proper analysis of actual conflict situations and real incidents. These innovations were presented by HungaroControl in March 2011 at the world air traffic exhibition in Amsterdam, where a number of European and overseas organisations expressed their interest in the new Hungarian products.

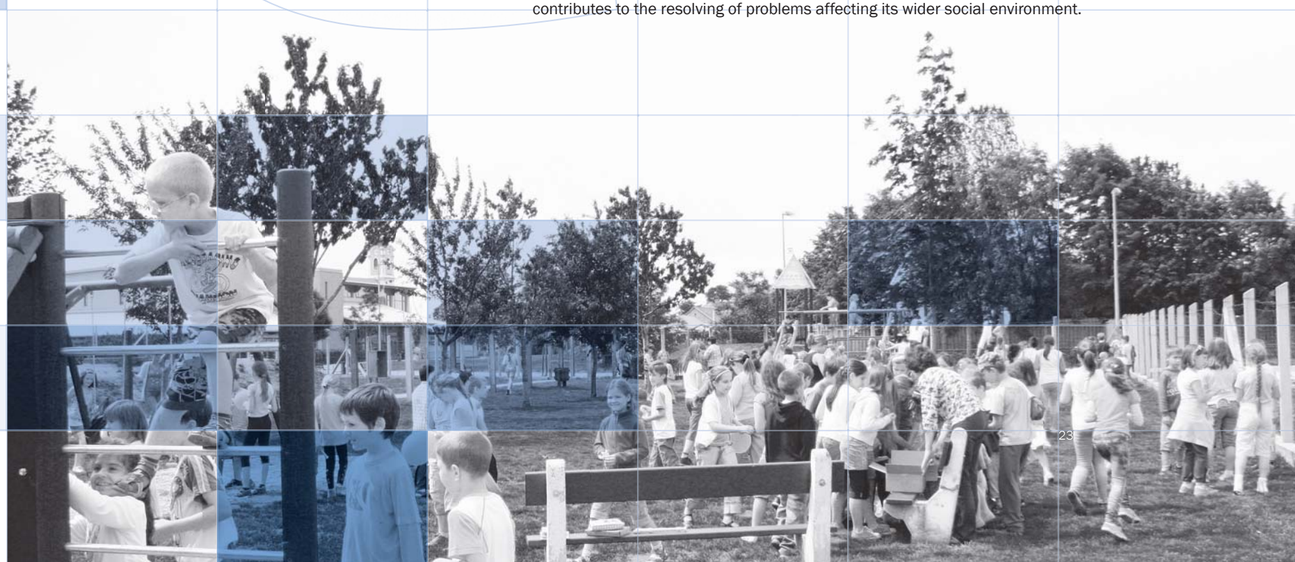
Moreover, HungaroControl supports the university's scientific activities by providing funding and by donating equipment.



# Corporate Social Responsibility
## with responsibility for the future

The operations of HungaroControl are guided by the principles of sustainable development and the norms of ethics. As a responsible enterprise the Company pays particular attention to the expectations of society and it actively contributes to the solving of local and global problems, making efforts to maintain good relationships with local residents and municipal governments.

The Social Responsibility Programme of the Hungarian air navigation service is based on the recognition that as a responsible employer and market participant, HungaroControl has a sense of responsibility for the social and the natural environment. For this reason the Company makes a point of supporting and contributing to the improvement of the living conditions of the local communities in its area of operations, to the protection of their residential environment, their sporting activities and the development of their cultural life. Moreover, to the extent permitted by its resources, the Company also contributes to the resolving of problems affecting its wider social environment.



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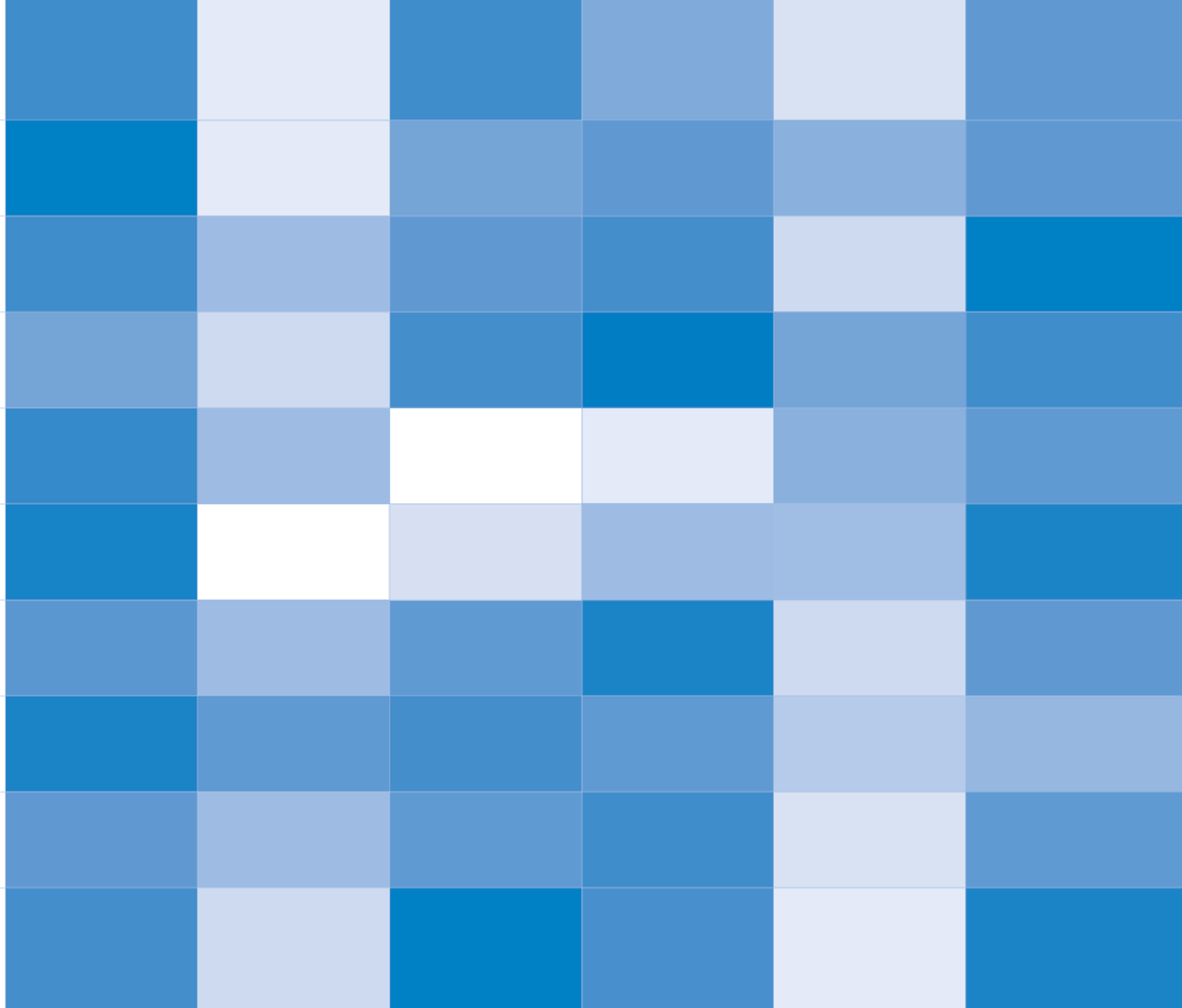

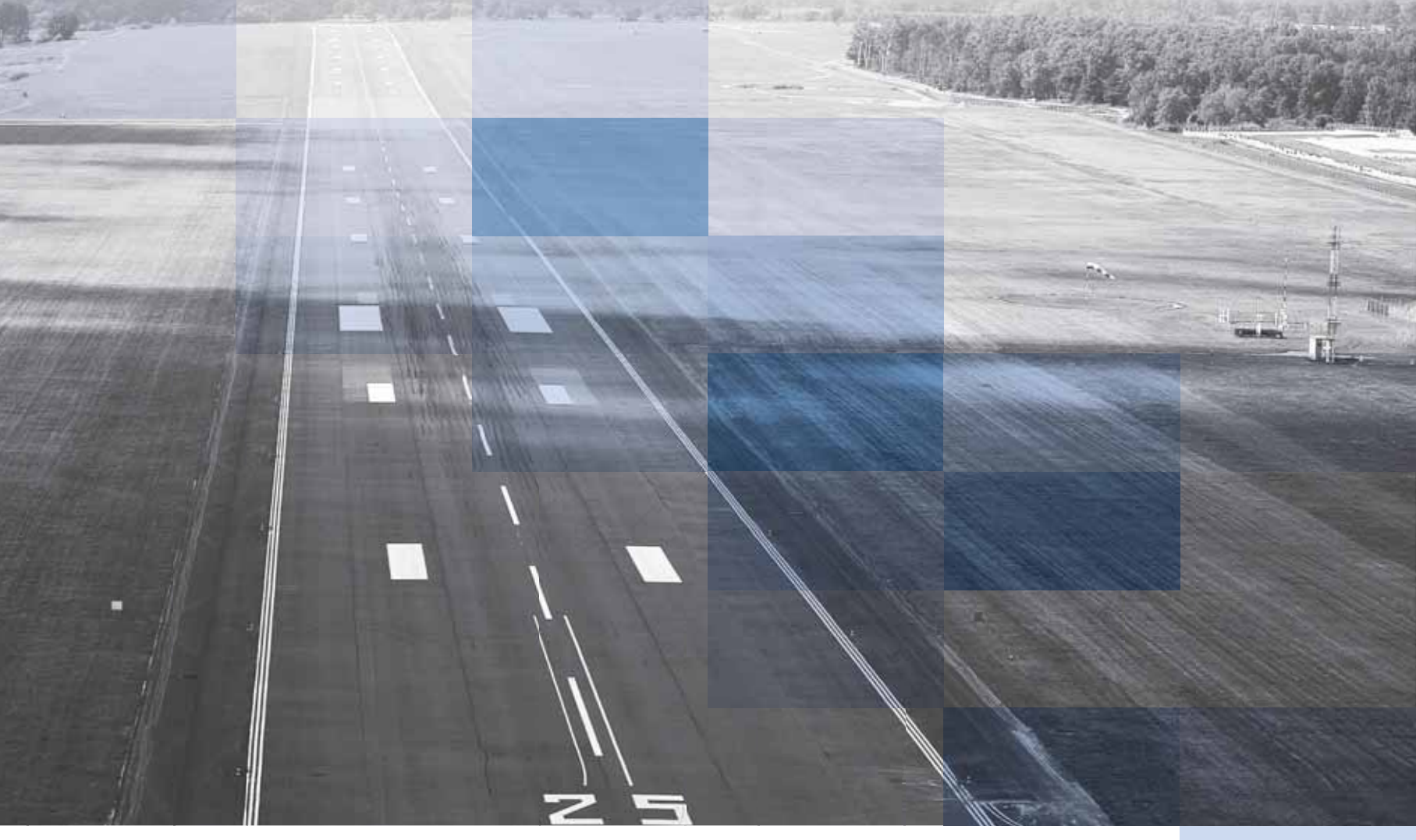
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