



CROATIA  
CONTROL

# Annual Report 2015



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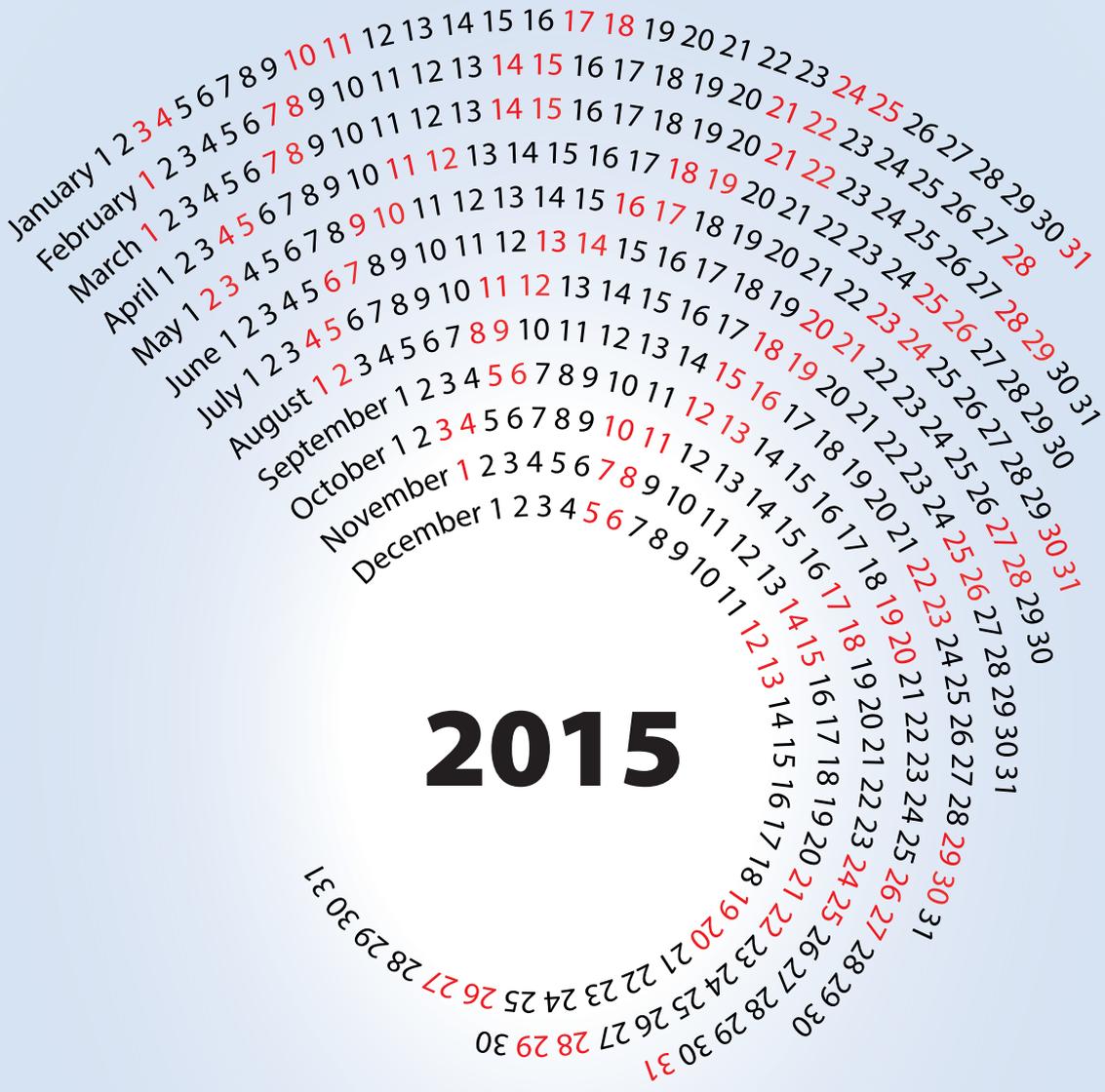




# Croatia Control Ltd

## Annual Report 2015





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# 1. Message from the Director General



Dragan Bilac

Director General

Year 2015 was very challenging for Croatia Control Ltd (CCL). For the first time we contributed to the performance management which required considerable organisational and operational effort, while simultaneously an extensive social dialogue took place, ending with the signature of the new Collective Labour Agreement in July, effective until 2018. CCL also had a very active role in international activities, especially within the COOPANS partnership and with A6 partners. There were also numerous regional activities within FAB CE and even beyond, such as the trilateral partnership with BHANSA and SMATSA as well as with the Gate One partners. With our partners from the COOPANS Alliance we upgraded the Top Sky software in February and in December so all 7 COOPANS ACCs operate with the same version. Once again it has proved the substantial benefits COOPANS has to offer to its members. Besides substantial savings for the partners, COOPANS meets the EU's aim concerning the harmonisation of ATM systems in Europe. Also, the COOPANS alliance and DSNA (the French ANSP) have launched the programme of convergence of DSNA and COOPANS

ATM systems, which aims at investigating on possibilities to have a common version of their ATM systems from 2025 onwards. The COOPANS ANSPs have established a transversal deployment team to efficiently contribute to the SESAR Deployment Manager and to the SESAR 2020 preparation. Joining the SESAR Deployment Alliance enabled CCL to take an active part in the development of the European ATM system in the next long-term period. The SESAR Deployment Manager coordinates and monitors the realization of all implementation projects which are strongly supported with significant co-funding through the Connecting Europe Facility (CEF) Programme. Committed to safety, CCL and EUROCONTROL jointly organised a high level safety conference in Split in June, attended by some 80 CEOs and Safety Managers from 30 ANSPs, who discussed the safety issues with the aim of reducing safety risks and concluded that balance should be reached among the four key performance areas, i.e. between safety, environment, capacity and cost-efficiency, since the European Commission demands improvements in all four areas. In cooperation with our neighbouring partners SMATSA and BHANSA we implemented the first European Free Route Airspace concept over four states above FL325, called the South-East Axis Free Route Airspace (SEAFRA). Although in the first phase it is active only at night, its H24 implementation is planned as of winter 2016/2017. This FRA is implemented well in advance prior to the date mandated by the regulation. The common goal is to improve ATS safety and efficiency as well as the environmental protection by reducing fuel, CO<sub>2</sub> and NO<sub>x</sub> emissions. CCL is one of the first European ANSPs using a renewable energy source generating electric power for its business operations implementing a solar power plant supplying around one-third of daily electric energy consumption of the facilities at our headquarters in the summer months. This project sends an important message to the community regarding the environmental protection policy, which was well recognised by the delegation of the European Parliament's Transport and Tourism Committee (TRAN) which visited CCL in November. The COOPANS system, the simulator, and other activities were presented to the Chair of the Committee Mr. Michael Cramer and four MEPs. The delegation was particularly interested in the implementation of cooperation within the framework of FAB CE as well as in the COOPANS cooperation in view of the fact that those ANSPs are geographically separated. New challenges are ahead of us, including the implementation of some outstanding projects in order to meet all relevant safety and quality standards across all segments of CCL's activity. In the forthcoming period, CCL will – in addition to proper strategic guidance, optimum use, and further development and improvement of all its human and material resources – enhance business processes, maintain and raise the level of air traffic safety, the quality of services and overall performance in accordance with the target given in the FAB CE Performance Plan.

## 2. Company Profile

### 2.1. History of Croatia Control Ltd

Croatia Control Ltd (CCL) is a state-owned limited liability company providing air navigation services. It was founded in 1998, a year after Croatia's accession to EUROCONTROL (European Organisation for the Safety of Air Navigation). Croatia was already a member of the International Civil Aviation Organisation (ICAO) and the European Civil Aviation Conference (ECAC) since 1992. Before 1998, the Air Traffic Services Authority as a part of Ministry of Transport was responsible for the provision of air traffic services in Croatia.

The key founding steps in the history of the company are:

- **September 1991:** the Zagreb Area Control Centre operated within the Federal Air Traffic Control Authority;
- **January 1992:** the Air Traffic Services Authority of Croatia was founded as part of the Ministry of Maritime Affairs, Transport and Communications;
- **May 1992:** Croatia acceded to ICAO;
- **July 1992:** Croatia acceded to ECAC;
- **March 1997:** Croatia acceded to EUROCONTROL;
- **February 1998:** Croatia Control Ltd. (CCL) was founded as a limited liability company;
- **December 1999:** CCL was registered as a limited liability company at the Commercial Court;
- **March 2009:** CCL was certified as air navigation service provider by relevant national body;
- **May 2011:** Croatia signed the Agreement on the Establishment of Functional Airspace Block Central Europe (FAB CE);
- **June 2011:** CCL became a full member of the initiative of ANSPs of Ireland, Denmark, Sweden and Austria called COOPANS.;
- **April 2014:** CCL became a full member of CANSO (Civil Air Navigation Services Organisation);
- **December 2014:** CCL, as part of COOPANS, became a member of the SESAR Deployment Alliance, which was appointed as the SESAR Deployment Manager by the European Commission.
- **July 2015:** CCL, as a member of COOPANS, joined the "A6 Group". Memorandum of Cooperation was signed by DFS, DSN, ENAIRE, ENAV, NATS, PANSA, NORACON, B4 and COOPANS.

Over the years, the traffic in Croatia was undergoing strong growth, especially during the 2000's. At the same time, the equipment was becoming outdated and consequently upgraded or replaced. CCL was faced with more demanding requirements so the ATM system Eurocat 2000E (CroATMS) was put into operational use in 2005 - it was a relevant and well-planned response to these changes.

The development continued along similar lines with a view to finishing a multiannual investment cycle marked by the projects of improved radar coverage, CroATMS upgrade and its extension to remote Adriatic operational units. In the last few years, intensive activities associated with the launching of a new investment cycle took place, including the CroATMS upgrade and modernisation to the Top Sky COOPANS ATM system as the most significant one.

## 2.2. Mission

Our mission is to provide safe and top quality air navigation services, to full satisfaction of our users and shareholders. The mission will be achieved in cooperation with our partners in the European ATM network, with highly competent staff and a motivating work environment.



## 2.3. Vision

We aim to be among leading air navigation service providers in Central Europe. Our vision will be achieved through a flexible organisation that meets its user requirements.

## 2.4. Core Business



CCL's operation in 2015 was based on its Annual Plan, and its services to the customers were provided in a genuinely transparent and non-discriminatory manner. The core business of CCL comprises the provision of air navigation services (ANS), including:

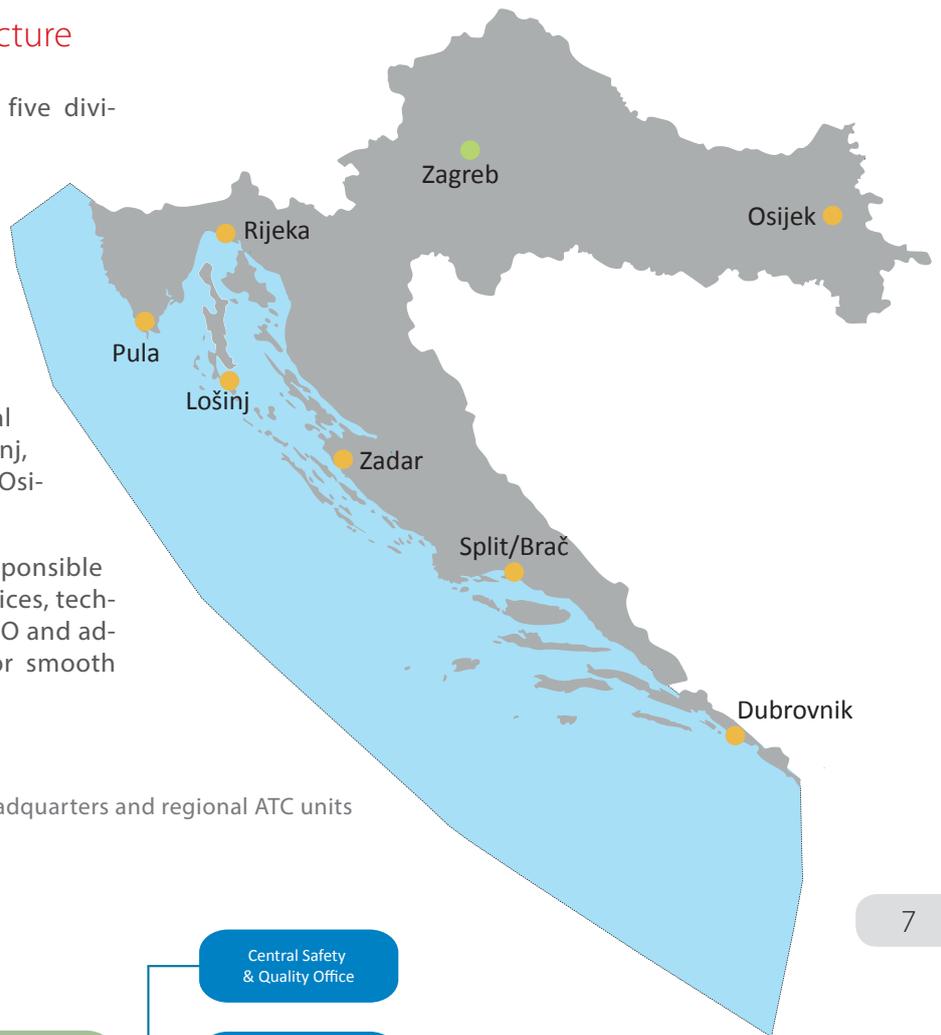
- provision of air traffic services (ATS), particularly air traffic control, alerting service, flight information and pre-flight information service, all aimed at providing a safe, orderly and smooth air traffic, as well as flight data processing and storage, promulgation of safety-related information, management of air traffic flow and airspace utilization;
- provision of communication, navigation and surveillance services (CNS);
- provision of aeronautical information services (AIS);
- provision of aeronautical meteorological services (MET).

## 2.5. Organisational Structure

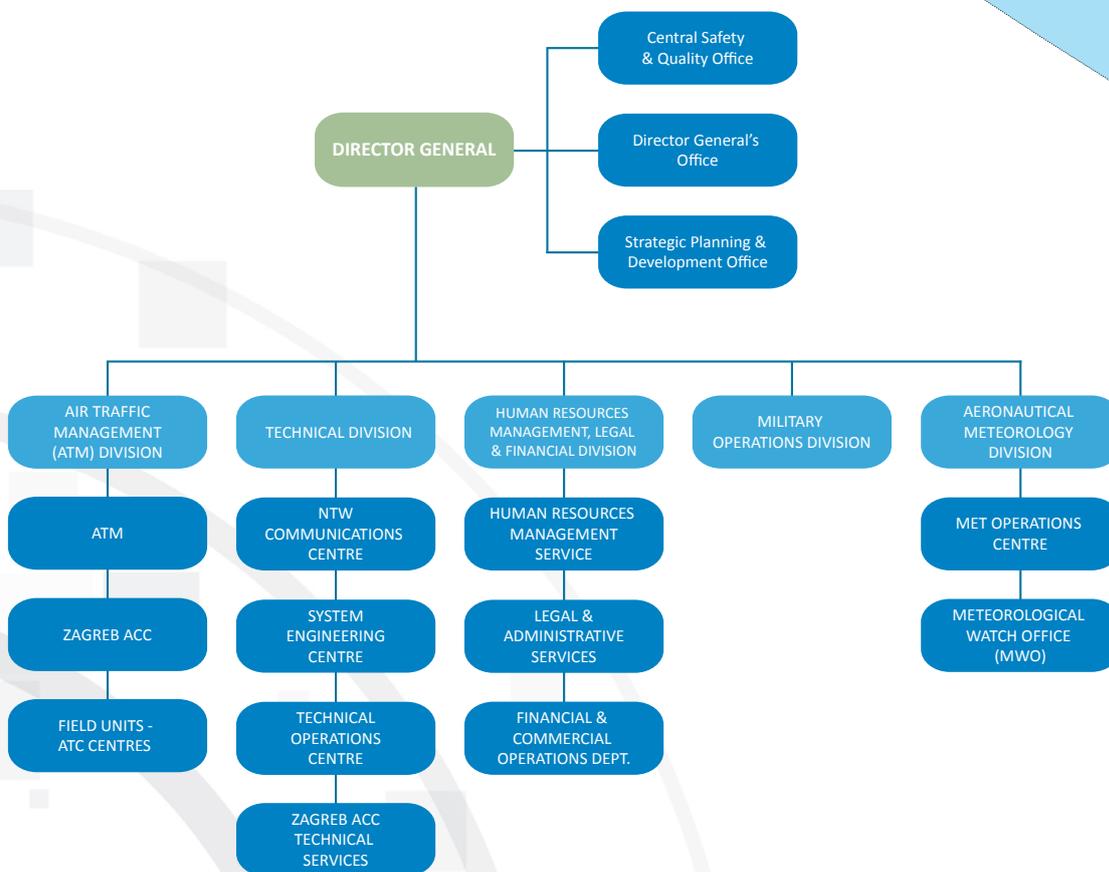
The company is organised into five divisions.

These are: Air Traffic Management, Technical, Aeronautical Meteorology, Military Affairs, and Human Resources, Legal and Financial Affairs. Beside the CCL's Headquarters which is located in Velika Gorica near Zagreb, there are also the regional ATC centres in Pula, Rijeka, Lošinj, Split/Brač, Zadar, Dubrovnik and Osijek.

These operational units are responsible for the provision of air traffic services, technical support, meteorological, ARO and administrative services required for smooth air traffic flow.



CCL headquarters and regional ATC units



Main divisions and departments of CCL

## 2.6. International Activities

### Services for Bosnia and Herzegovina

CCL has been providing air traffic services in the western part of the airspace of Bosnia and Herzegovina. For 15 years CCL had provided services in the entire lower airspace until BHANSA took over the responsibility for the service provision in most of the airspace below FL 325 by November 2014.

### Regional Co-operation

Functional Airspace Block (FAB CE) is a joint initiative of seven states: Austria, Bosnia and Herzegovina, Croatia, Czech Republic, Hungary, Slovak Republic and Slovenia, with their respective ANSPs, including CCL. To meet the future needs of the growing air travel and transport industry, the European ATM needs to become more flexible, harmonised and seamless. The European Commission's SES initiative aims at the unification of European airspace so the creation of FABs independent of national boundaries optimises airspace usage and capacity, making the flow of air traffic over Europe more efficient. The FAB CE Agreement as well as the FAB CE ANSP Cooperation Agreement were signed in May 2011.

The implementation of FAB CE maintains and, wherever possible, improves the current level of safety notwithstanding the increased traffic, through the establishment of a common safety management procedures and practices. The ATM services within the FAB CE should be provided in an environment characterised by the cross-border airspace design and sectorisation. The airspace design process therefore will not be constrained by the borders between the FAB CE States, but will be based on operational needs and air traffic flows resulting in better horizontal and vertical flight efficiency, improvements in productivity and the consequent increase in capacity. With the FRA concept (Free Route Airspace), the users are able to freely plan the route between a defined entry and a defined exit point, with the possibility to route via intermediate (published or unpublished) way points, without reference to the ATS route network.

The legal entity FAB CE Aviation Services Ltd was founded by FABCE ANSPs, and it enables facilitation of project management and procurement as well as other benefits.

The step by step realisation within FAB CE will result in incremental benefits by applying FRA structures and principles and deploying FRA stepwise across the borders to a FAB CE-wide implementation by 2018. However, CCL has cooperated beyond FAB limits, and implemented South-East Axis FRA project with SMATSA that was, jointly coordinated with BHANSA, encompassing four states and two areas of responsibility so far



COOPANS stands for "COOPeration of ANS Providers". COOPANS Framework Agreement between CCL, IAA, LFV, Naviair and Austro Control (providers from Sweden, Denmark, Ireland, Austria and Croatia) has gone further than the traditional relationship between Air Navigation Service Providers, and the ATM supply industry and has set the foundations for a strong and long-term partnership. Thales as the chosen industry supplier is additional valuable partner to the COOPANS.

The harmonisation of Air Traffic Management (ATM) systems is one of the most important tasks to achieve for implementing the Single European Sky (SES). It can be considered as the backbone of the SES and brings significant benefits to the operators and service providers of the entire ATM system.

The COOPANS alliance obtained outstanding results in ATM harmonisation. It is a perfect example of effective partnership between air navigation providers (ANSP) and industry working towards a common objective. By applying innovative technological solutions, the alliance has allowed the reduc-

tion of capital expenditure for each member. The innovative solutions implemented by the COOPANS initiative have a strong potential to be replicated in other countries, giving the initiative a broad European scope and making it a main contributor to SES performance objectives.

COOPANS has adopted common managerial approach where the five ANSPs act almost as one organisation deeply cooperating with the supplier Thales, focusing on common success. The harmonisation of functionalities and joint investments enable the implementation of an advanced and unified ATM system. Activities include, inter alia, common stepwise operational and technological evolution optimisation of life cycle costs, sharing the same system and support baseline for operation and maintenance. COOPANS members maximise benefits using common tools, methods, and operational procedures throughout the system life cycle. From a financial perspective, common procurement is defined for all major programme steps: development, integration, deployment and maintenance. COOPANS' highest priority is to provide a customer-oriented solution supporting economic efficiency and environmental protection, with a focus on maintaining the required level of safety whilst increasing capacity to meet our customers' demands. COOPANS intends to be at the forefront of the European standards, implementing the latest proven ATM tools to minimise CO2 emissions and improve situational awareness.

CCL launched into operation the new ATM system based on the latest COOPANS version in February 2014, by which Zagreb Area Control Centre became of the big COOPANS family consisting of seven ATC centres in five European countries that use the same ATM system with the same version of software. It ensures CCL's permanent harmonisation with the EU standards and competitiveness on the European market of ANS. All five ATM systems are harmonized, including all upgrades, usually twice a year. The members make joint investments and share expenses, thus realizing cost savings and safety benefits



Based on the excellent success with the technical and operational cooperation the partners have decided to extend the scope of the alliance to partnership on SESAR 2020 and SESAR JU as well as to SESAR deployment management.

CCL, as a part of COOPANS, is a member of the SESAR Deployment Alliance, which has been appointed by the European Commission as the SESAR Deployment Manager (SDM). Joining the Alliance enables CCL to take an active part in the deployment of the newest ATM functionalities in the European ATM system in the next long-term period as well as to have the access to the available EU funds, which will strengthen its position in the European environment and yield positive financial results. The Memorandum of Cooperation has established a framework of cooperation between the partners, aimed at providing customer value through improving of the ATM performance at European Network level, and increasing the pace and the degree of implementation of SES.

During 2015, the main tasks of the SDM were:

- finishing of the job related to CEF Transport Call 2014 (supporting all concerned stakeholders during the evaluation of the proposals, consultations, adoption of selection decision, signature of individual grant agreements)
- delivering the Deployment Programme 2015.
- preparation for submission of the Pilot Common Project (PCP) related common proposals for the CEF Transport Call 2015

The COOPANS alliance partners decided to take part in common in SESAR Joint Undertaking (private-public partnership under EUs research program, SESAR, for developing the next generation of European Air Traffic Management). SESAR (Single European Sky ATM Research) is a technological part of Single European Sky initiative. As an official candidate member, CCL participated under COOPANS Consortium in all preparation phases for SESAR 2020. This included the definition of interests, participation in definition of work, budget and efforts coordination, preparation of project proposals etc.

# 3. Corporate Governance

CCL's governance structure comprises the Assembly, the Supervisory Board and the Management.

## 3.1. Assembly

The Assembly consists of the Chairman - Minister of Maritime Affairs, Transport and Infrastructure and two members - Minister of Finance and Minister of Defence.

## 3.2. Supervisory Board

The Supervisory Board monitors the activities of the Company. The Supervisory Board appoints the Director General of the Company on the basis of open competition for a period of five years.

The Supervisory Board consists of five members, four of whom are appointed and may be recalled by the Assembly, and one is a company employee. The members are:

- **Prof. Darko Prebežac, Ph.D**  
Chairman of the Supervisory Board
- **Dinko Staničić**  
Vice Chairman
- **Marko Neveščanin**  
Employee Representative
- **Marijana Müller**  
Member

*Note: Mr. Hrvoje Filipović was the member until September 2015 and Mr. Željko Gojko was the member until December 2015.*

## 3.3. Management

- **Dragan Bilać**  
Director General

## 3.4. Division Directors

There are five main divisions in CCL, managed by the following directors:

- **Mihajlo Jelisavčić**  
Director, Air Traffic Management (ATM) Division
- **Dario Grgurić**  
Director, Technical Division
- **Siniša Ljubić**  
Director, Human Resources, Legal and Financial Division
- **Hrvoje Filipović**  
Director, Military Affairs Division
- **Alen Sajko**  
Director, Aeronautical Meteorology Division

*Note: Mr. Stjepan Varga was the director of Military Affairs Division by September 2015.*

## 3.5. Executive Directors

There are three Executive Directors within the ATM Division:

- **Ivana Baričević**  
Executive Director, Air Traffic Management (ATM)
- **Vladimir Bračević**  
Executive Director, Zagreb ATCC
- **Josip Josipović**  
Executive Director, Regional ATC Centres



# 4. Operations and Infrastructure

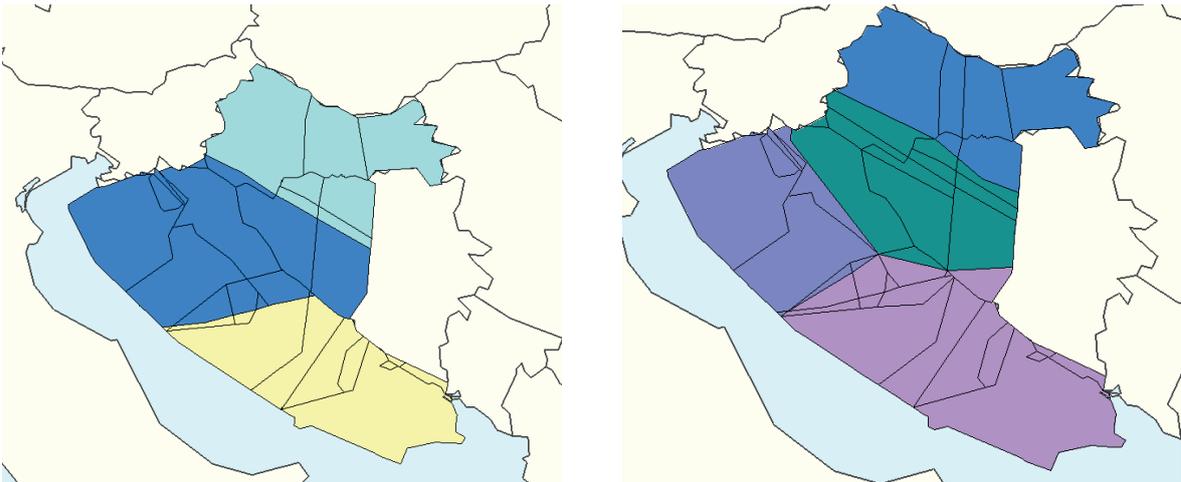
## 4.1. Operational Units

CCL's main operational units are as follows:

- Zagreb Air Traffic Control Centre provides area control services for Zagreb FIR as well as for a part of Sarajevo FIR, and the approach control services in Zagreb TMA;
- Zagreb/Lučko Aerodrome Control: provides tower control services at Zagreb and Lučko aerodromes;
- Regional ATC centres providing approach and tower control services - Osijek, Rijeka, Pula, Zadar, Split, Dubrovnik, Lošinj and Brač.

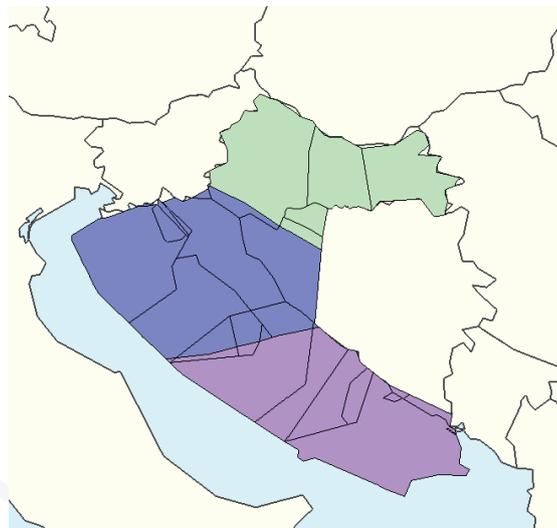


Through the provision of air traffic services for Bosnia and Herzegovina, CCL has been providing air navigation services in the context of an early example of the Functional Airspace Blocks that are the key features of the Single European Sky. This means that the operational borders of certain sector groups extend across national borders, thus contributing to improved efficiency and flow of international air traffic.



ACC Zagreb area of responsibility (AoR) in the "upper" airspace above FL325

According to the mutual agreements among partners, BHANSA took over the major part of the lower airspace below FL 325, previously delegated to both CCL and SMATSA. It resulted in the changes in the Area of Responsibility, as shown in the picture below:



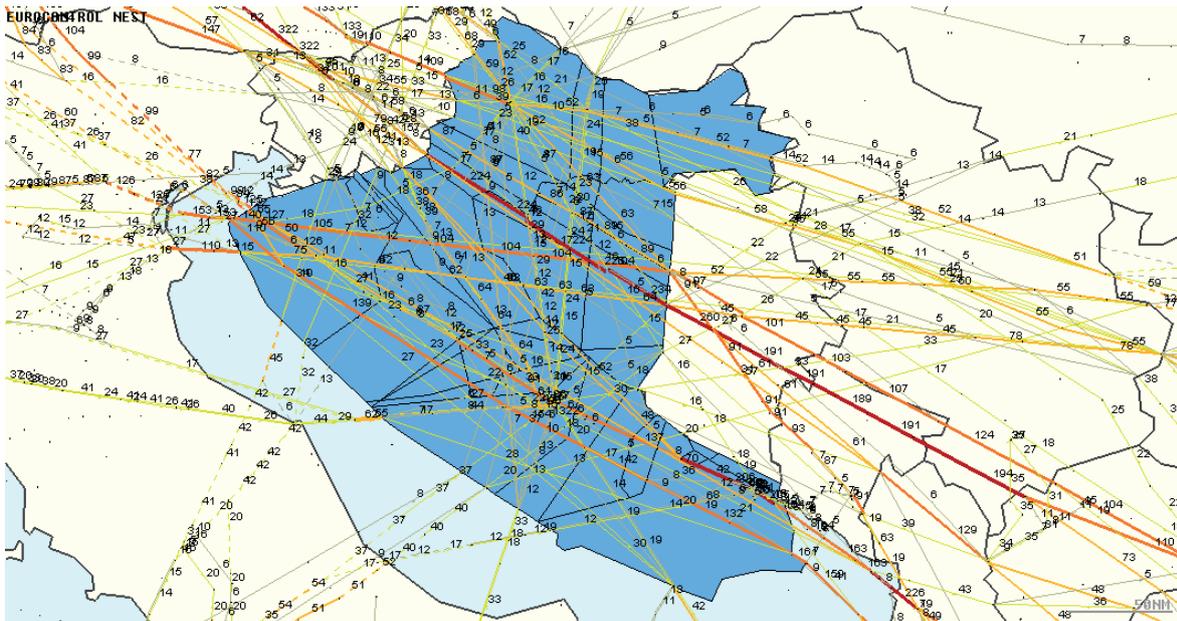
ACC Zagreb area of responsibility (AoR) in the "lower" airspace below FL325

## 4.2. Traffic Flows and Seasonality

The main traffic flows over CCL's Area of Responsibility in 2015 are shown in the picture below. The numbers represent the total number of IFR GAT operations on a particular route on the busiest day of summer 2015.

Traffic in CCL's AoR is highly seasonal and the main flows run in South East to/from North West direction.

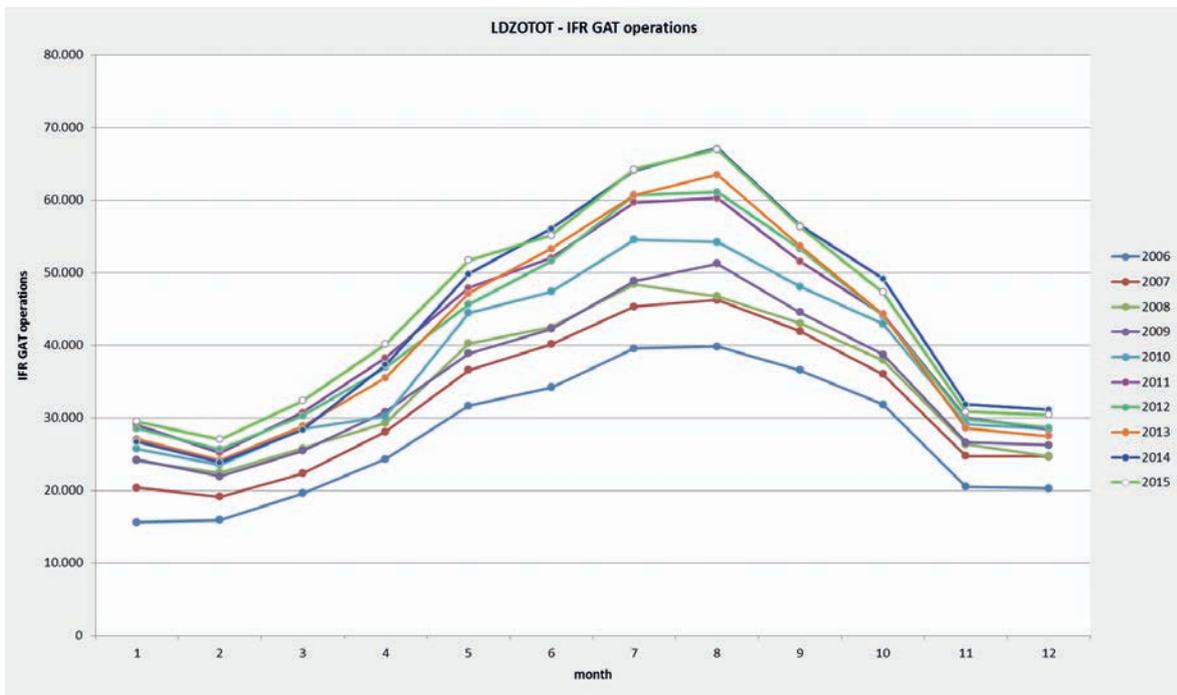
The volume of traffic in the period May - October is much greater than the volume in the rest of the year. The intense seasonality of traffic means that CCL faces particular challenges in achieving a balance between the required capacity and use of resources throughout the year.



Main traffic flows

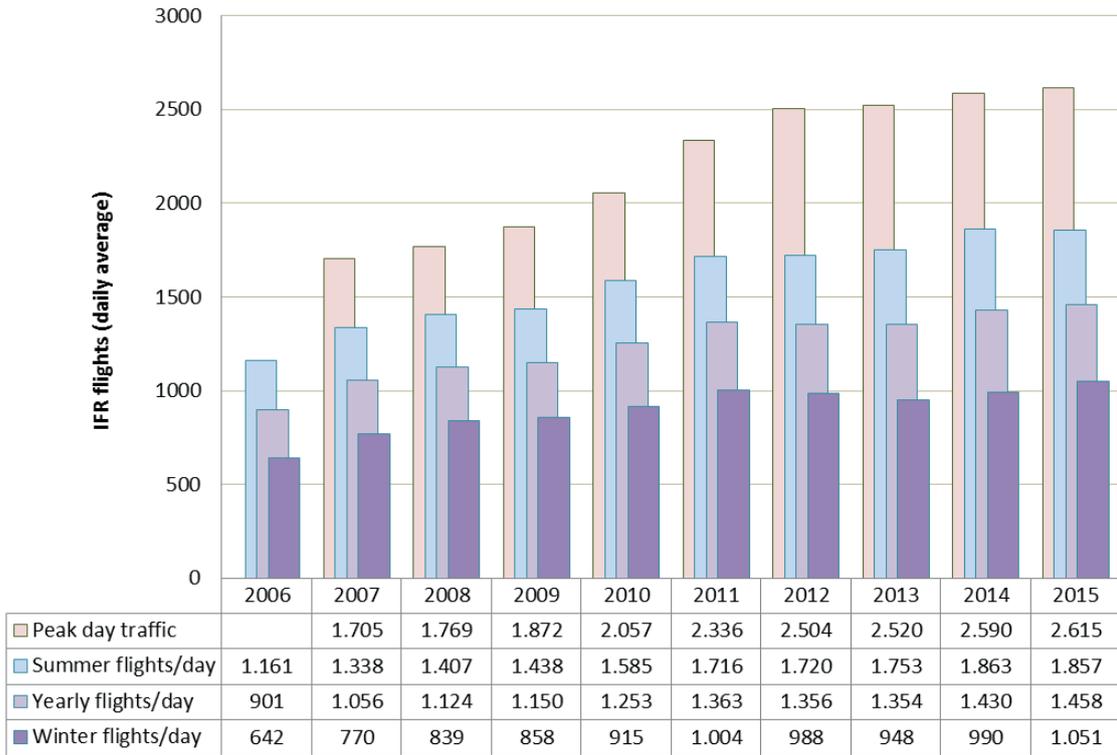
Traffic routes over the entire South-East axis of the European airspace are already very close to the shortest routes, with CCL in a lead position within FAB CE, which is an advantage both in terms of flight efficiency as well as of reduced harmful emissions.

The graph below shows the evolution in total number of IFR GAT flights controlled by CCL.

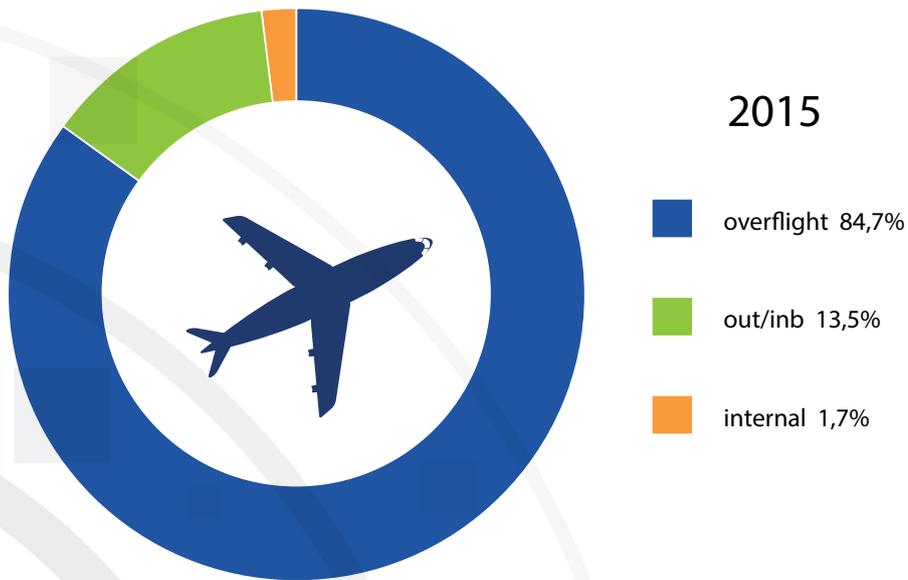


Peak day traffic has been continuously growing together with summer daily averages, and in 2015 the average daily traffic was 1458 operations per day, while the summer peak day counted for 2615 flights

LDZTOT Peak day traffic, Summer, Yearly and Winter daily averages



In 2015, approximately 85% of the flights in Croatia were overflights, 1.7% were domestic flights and the remaining 13.5% were international flights, arriving at or departing from Croatian airports.



Distribution of flights in Croatia

### 4.3. Civil-Military Coordination



In Croatian airspace CCL is also responsible for the provision of services to the Ministry of Defence of the Republic of Croatia and its Air Force, pursuant to the Air Traffic Act and other applicable regulations. For the purpose of maintaining a high level of safety and quality, relevant air traffic data are regularly exchanged between these two parties, which is the basis for creating the conditions for an efficient protection of the airspace without affecting the safety of all users. In order to enable more efficient and flexible use of the airspace, the civil-military Airspace Management Cell was established.

### 4.4. Operational Improvements

Adequate capacity planning is thus the paramount in the overall planning as Croatia has further potential for growth arising from the shortest as well as the cheapest route options. In order to utilize sector capacities and to accommodate the traffic demand, CCL has introduced Central sector in High and Top area. The main goal is to rearrange traffic flows over west sector and to reduce complexity with effect of reducing delays produced in western part of FIR.

<b>TNN</b>	<b>TNC</b>	<b>TWC</b>	<b>TWW</b>	<b>TS</b>	<b>DFL 375</b>	<b>TOP</b>
<b>HNN37</b>	<b>HN C37</b>	<b>HWC</b>	<b>HWW</b>	<b>HS</b>	<b>DFL 355</b>	<b>HIGH</b>
<b>HNN36</b>	<b>HN C36</b>					<b>UPPER</b>
<b>UN</b>		<b>UW</b>		<b>US</b>	<b>DFL 325</b>	<b>LOWER</b>
<b>LN</b>		<b>LW</b>		<b>LS</b>		

#### Free Route Airspace Concept and SEAFRA project

In 2015, CCL in cooperation with SMATSA extended and increased the number of DCT options with the aim of further increasing the efficiency of ATM, in line with other developments within the Eu-

ropean ATM Network. This extended the positive impact on AOs, increased the quality of our service and contributed to the reduction of the greenhouse emissions. The utilisation of DCT routes has an impact on the efficiency of CCL, while reducing adverse impacts on the environment. Continuous monitoring of the use of these planning options (routes) and comparing the results with those related to the flights along RNAV routes, allow us to track the changes in fuel consumption, which in turn means less harmful emissions.

Connecting to other Free Route initiatives within the FAB CE, as well as other FABs, will be done through an overall network coordination. Preparatory activities for FAB CE FRA Study took place in 2015 with the aim to perform relevant studies in 2016.

The project SEAFRA led by CCL and SMATSA and also contributed by our partner BHANSA, is one of the key improvements in line with the EU initiative on establishing the Single European Sky regardless of state or even FAB borders, aiming to enhance safety and efficiency and to increase air traffic capacity in Europe.

SEAFRA area encompasses Zagreb ACC AoR and Beograd ACC AoR between FL325 and FL660 among four States. Since April 2015 the cross border operation of FRA has been implemented during the night. By following this initiative for implementing H24 FRA concept SEAFRA (planned for the end of 2016), participating ANSPs have a common goal to improve ATS safety and efficiency, as well as to protect the environment by reducing fuel, CO<sub>2</sub> and fuel NO<sub>x</sub> emissions

## Capacity



Capacity is defined as the ability to provide ATS in a defined volume of airspace, taking into consideration the high safety standards achievable without significant operational changes, im-

pact on the environment and economy. It is the maximum number of aircraft which can safely transit through airspace within a defined time frame.

## Baseline Capacity

Baseline capacity is defined as an effective capacity which can be delivered and maintained in peak traffic periods and is determined annually by NM ACCESS process. This is done based on the recordings of a two week period during summertime and collection of all relevant inputs, such as exact sector opening times, DELAY produced as well as the number of operations and other relevant factors. ACC Baseline capacity is calculated on the basis of those information using the reverse CASA method.

## Delays



Delay is measured for all regulations used throughout the year, and basically reflects a lack of capacity. The year 2015 ended with a delay of 0.57 min/flight (according to STATFOR records). The target was 0.23 min/flight. The causes of delays were weather conditions (29%) and staffing/capacity (71%).

## 4.5. Environment

For the purpose of compliance with LSSIP requirements and in coordination with Croatia Airlines, the implementation of Continuous Descent Approach (CDA) procedures has been initiated at the Zagreb Airport.

CCL takes appropriate actions to decrease fuel consumption of airspace users. This is done by route design (introduction of direct routes) and the development of new procedures (CDA, CCA). In cooperation with its partners, CCL implemented cross-border direct routes between the areas of responsibility (AoR) of Zagreb and Belgrade Area Control Centres (ACCs) as a part

of the SEAFRA concept and the night FRA implementation has been initiated as well.

SEAFRA significantly contributes in reduction of planned route distances, with the consequence of fuel savings, reduction of CO2 emissions and less NOx.

## 4.6. Technical Infrastructure

### Overview

Highly qualified engineers and technicians have continuously been engaged in the maintenance and upgrading of the following systems: ATM Data Processing Systems, Communications Systems, including radio-communication transceiver, Navigation Systems, Radar Systems, Electric Power Systems, Network Communications Systems and Meteorological Systems.

Croatia as a member of EUROCONTROL shall comply with the European Single Sky Implementation Plan (ESSIP) and LSSIP which actually represents the five-year plans that include the actions to be taken with a view to achieve the ESSIP objectives and improve the performance of their respective ATM systems. These Plans also include a report to be submitted by each country on the level of its compliance with SES regulations. Furthermore, certain investments are required to be in compliance with the EC Implementation Rules and ICAO mandates.

### 2015 Investment Plan

The projects included in the investment plan for 2015 are categorised as follows:

- NAVAIDS projects;
- ATM systems upgrade;
- DATA-COM domain projects;
- VOICE-COM domain projects;
- SUR domain projects;
- AWOS/MET domain projects;
- Reconstruction of buildings and infrastructure;

### NAVAIDS projects

In 2015, 3 new standalone DME systems (Brač, Lošinj and Japetić) were installed, tested and prepared for commissioning (mainly P-RNAV application).

Within the project of NAV system modernization in RP2, procurement of 5 VOR/DME and 3 ILS systems was realized in 2015.

By the end of the year, the first VOR/DME system (ZDA) replacement and commissioning was successfully conducted, as well as the preparation activities for the next replacements to be performed in 2016 (VOR/DME PUL and ILS IZG).

### ATM systems upgrade

Continuing successful initial implementation of world class COOPANS ATM system in Croatia Control, in 2015 there were three new software upgrades with numerous functional enhancements. On the technical level, sensor and tracker infrastructure was upgraded to support Mode S DAPs, ADS-B and WAM sensors with general increase in overall system capacities. Simulation environment was upgraded in the areas of CPDLC and arrival manager. Notable operational evolutions included the improvements in multi sector coordination as well as the improvements to horizontal transitions

during the cruise phase. It is important to mention that the main ATM system upgrades have been harmonized, defined, developed and implemented in COOPANS Alliance. The common ATM system in 7 ACCs across 5 ANSPs was seamlessly deployed at all sites within an extremely short period of time for each of the three builds (Build 2.5, Build 2.6 step 1 and Build 2.6 step 2). The first phase of the ATM emergency system ARES project implementation, encompassing the "clear the sky" function, was successfully activated in February 2014, together with the new ATM system. During April 2015, Pula, Zadar, Split and Dubrovnik systems were configured to receive additional operational data from the main ATM system. From that moment remote sites systems can be used for service continuity in case of main ATM system failure.

### VOICE-COM domain projects

Under the Project of Modernization and Replacement of VCCS and Emergency VCS Systems and after successful transition into operation of VCS/BVCS at 5 main airports in 2014, new VCS was commissioned in ACC Zagreb in January 2015. Previous main VCS was altered to serve as BVCS. Newly introduced VCS/BVCS concept gives more flexibility in sector configuration changes well as opportunity to fully exploit newly introduced radio centers, and it allows smooth upgrade to VoIP. In 2015 ACC/TMA VHF/UHF radio sites expansion project was successfully completed by introduction of Promina site into operational work.

Advanced PBXs are implemented in Zagreb, Pula, Rijeka, Zadar, Split and Dubrovnik with redundant connections achieved through networking.

### SUR domain projects

The radar Monte Kope was installed and commissioned in 2015. The beginning of operational use is planned from May 2016.

### AWOS/MET domain projects

Automatic meteorological systems in Pula and Split replacement project continued in 2015 with finishing the installation tasks, documentation, software functionality and system configuration with technical staff training. Operational Acceptance Tests were successfully executed for both new systems AWOS Pula and AWOS Split, completing the contract with system manufacturer. Preparatory activities are scheduled for first part of 2016, with planned transition of these systems into operational service in April 2016, replacing old and obsolete systems AMS2 Split and Pula with new systems with improved performance and new functionality (automatic mode of operation, ATIS, remote forecast-er...).

Within VAMS50 project, a new system was installed in Rijeka for one wind measurement position (TDZ14) replacing the old one, activities continued in the areas of finishing system design and preparing the next part of the project (infrastructure works for new anemometer masts in Rijeka, and new functionality of air pressure and temperature/humidity measurements with data display on operational positions for Rijeka, Brač and Osijek Airports).

### Reconstruction of buildings and infrastructure

Preliminary work on the reconstruction of the old ACC building has started, all contracts were concluded, but most of the construction work will be implemented in the next year

Infrastructure replacement projects are capital investments required for the replacement of obsolete and worn out equipment in order to enable CCL to continue to provide ATM services. They are achieved through the following ongoing projects according to the investment plan:

- Automatic Meteorological Station System Upgrade/Replacement (AMS Split, Pula, Zagreb);
- Basic Weather Observation Systems Upgrade/Replacement (VAMS50 Rijeka, Brač, Osijek);
- CCL's MW Link Transmission Network Development;
- Procurement, Commissioning and Installation of VRRS;
- NAV System Replacement and Modernisation;
- Modernisation and Replacement of VCCS and Emergency VCS Systems
- Aeronautical Information Database and Meteorological System Modernisation Programme

Compliance projects involve investments that are necessary to ensure compliance with the applicable global and regional regulations currently in effect, and are to be achieved through the following projects:

- AFTN/AMHS (FAMA) system modifications
- Aeronautical Data and Information Quality Compliance with the Single European Sky Requirements Project – CroQADI

After commissioning the new AMHS system in October 2013, CCL continued to build fully meshed AMHS connections within ICAO EUR/NAT region. The migration of CIDIN Rome to IP based AMHS link finally finished in November 2015, which was the final step for decommissioning CIDIN links. Before that CCL had put into operation new AMHS links with EUROCONTROL centres Harren and Breteigny (April 2015) as major centres for FPL messages distribution. In total, by the end of 2015, CCL implemented 5 international AMHS links: Madrid, Bratislava, Harren/Breteigny, Rome and Vienna.

Performance-related projects cover the investments to be made by CCL in order to improve its performance in terms of improved and more efficient provision of services to its users, and they include inter alia:

- Old ACC Building Renovation
- ACC/TMA VHF/UHF Radio Sites Expansion Project
- DATA-COM systems modernization project
- Introduction of new NAVAIDS systems for P-RNAV (DME/DME positioning)
- SUR System Upgrade
  - South sector and TMA Dubrovnik: TMA/En-route ground-based SUR system planned for the near future (2017);
  - Airport Zagreb: A-SMGCS Project planned for the near future; The definition of all the operational and technical requirements and start of tendering process in 2016. The finalization of the A-SMGCS project is expected in 2017.

In 2015, the work on implementation of new Information Security block (INFOSEC) successfully continued. The contract was signed, evaluation of the current situation was performed and High Level Design document was approved.

The project for "Supply, installation and integration of AGDL system for CPDLC service in CCL" followed the planned timeline during 2015. "CPDLC Operational Concept Document" was approved and the contract for "Supply and Installation of ATN G/G Router, CPDLC Test Tool and Related Services" was signed.

Full list of projects scheduled for implementation in 2015 is given in the table below.

<b>Project name</b>	<b>Start</b>	<b>Operational</b>
CCL centralised technical monitoring and control system	Before 2012	2017
CCL MW link transmission network development	Before 2012	2015
Flexible use of airspace (FUA) project	Before 2012	2015
Procurement of consoles for simulator and COOPANS	Before 2012	2016
Modernisation and replacement of VCCS and emergency VCS systems	Before 2012	2015
CMMS software procurement and installation	2013	2015
DATA-COM Systems Modernization Project	2014	2015-2019+
VOICE-COM Systems Modernization and Replacement Project	2014	2015-2019+
NAV Systems Modernization and Replacement Project	2014	2015-2019+
Ground-based Surveillance Systems Upgrade	2014	2015-2019+
AWOS/MET Systems Modernization and Replacement Project	2014	2015-2019+
VAMS systems upgrade project (Rijeka, Brač, Osijek)	2014	2015
400 kW photovoltaic power plant	2014	2015
Administrative information system modernization project	2014	2015
Security and protection of sites improvement project	2014	2019
ATM System Upgrade	2015	2015-2019+
Reconstruction of buildings and infrastructure	2015	2015-2019+
ICT Systems Modernisation Project	2015	2015-2019+
MET-ATM Domain Projects	2015	2015-2019+

### Plans for investments in coming years

Projects scheduled for implementation during 2016:

<b>Project name</b>	<b>Start</b>	<b>Operational</b>
ATM System Upgrade	2015	2015-2019+
DATA-COM Systems Modernization Project	2014	2015-2019+
VOICE-COM Systems Modernization and Replacement Project	2014	2015-2019+
NAV Systems Modernization and Replacement Project	2014	2015-2019+
Ground-based Surveillance Systems Upgrade	2014	2015-2019+
AWOS/MET Systems Modernization and Replacement Project	2014	2015-2019+
Reconstruction of buildings and infrastructure	2015	2015-2019+
ICT Systems Modernisation Project	2015	2015-2019+
MET-ATM Domain Projects	2015	2015-2019+
CCL centralised technical monitoring and control system	Before 2012	2018
Flexible use of airspace (FUA) project	Before 2012	2016
CMMS software procurement and installation	2013	2016
VAMS systems upgrade project (Rijeka, Brač, Osijek)	2014	2017
Security and protection of sites improvement project	2014	2018
Croatia control virtual info board for employees (CroVIBE)	2016	2016





# 5. Safety, Quality Environment and Security

Air traffic safety is the highest priority to CCL. To further improve the quality of service provided to our users, a Central Safety and Quality Office has been established at the corporate level, reporting directly to the Director General.

The Central Safety and Quality Office covers the areas of:

- Safety management,
- Quality management,
- Environment management,
- Security management,
- Internal control and auditing.

This department also facilitates operation of the occupational health and safety management system, which has been certified in accordance with the standard BS OHSAS 18001, and coordinates appropriate activities with the OHS department and other relevant organisational units and employees.

## 5.1. Safety Management

### Safety Management System

Safety management system (SMS), including a safety management function, has been in place since January 2007. The Safety Committee, which is the highest corporate body responsible for safety issues, meets on a monthly basis and it consists of Director General, Division Directors, Executive Directors and Safety Manager.

The main component of the SMS is the Safety Management Manual which defines SMS organisation and processes as well as basic SMS procedures, in order to comply with the SMS requirements laid down in national regulations, Single European Sky requirements and EUROCONTROL Safety Regulatory Requirements (ESARRs) setting out European safety standards.

Intensive SMS-related activities were undertaken in CCL during 2015. These included:

- Safety Occurrence Reporting and Investigations;
- Safety Surveys;
- Safety Assessments;
- External Services Safety Impact;
- Safety Monitoring;
- Competence Assurance;
- Safety Promotion;
- Safety Records;
- SMS Documentation.



## Safety Performance Indicators

Safety key performance areas:

- a) the effectiveness of safety management (Safety Maturity);
- b) the application of the severity classification of the Risk Analysis Tool (RAT);
- c) reporting of just culture.

The EUROCONTROL CANSO SMS Standard of Excellence Measurement in 2015 focused on two key areas:

- Study Area 9 (Safety Performance Monitoring);
- Study Area 11 (Adoption and Sharing of Best Practices).

In 2015, CCL managed to increase the effectiveness of safety management by 10 percent. CCL plan for RAT usage (ATM ground element) is in line with EU-wide targets for 2017 and 2019.

Regarding the Just Culture, it has been disseminated to the staff and the management through safety promotion workshops in order to develop a culture in which front line operators and others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training but where gross negligence, wilful violations and destructive acts are not tolerated, as per the definition laid down in the Regulation (EU) 390/2013). Such approach makes employees accountable for deliberate violations of the rules but encourages and rewards them for providing essential safety-related information not blaming or punishing them for “honest mistakes”. CCL has developed the Action plan for compliance with SES II regulatory requirements in the area of SMS. It is based on the results of an existing gap analysis report. This Action plan sets out the actions to be completed by CCL in order to continue their transition towards full compliance with SES II regulatory requirements for RP2. In essence, this is a progression from EoSM level 3 I(implementation) to level 4 (D) (managing and measuring) by the end of 2019.

In 2015 CCL's safety activities were focused on the following objectives:

- Continuous improvement of effectiveness of safety management;
- Minimising the number of serious incidents;
- Safety culture;
- Just Culture.

## International Safety Activities

As a part of its commitment to safety, CCL participates in a number of safety projects at the European level. Focusing its outcomes on the needs of SES and SESAR, EUROCONTROL's European Safety Programme (European Safety Programme – ESP-Plus) aims at facilitation of SMS regulation support in the deployments required by the European ATM Master Plan. ESP-Plus has been used to guide CCL SMS activities and many of its objectives have been successfully implemented in CCL. During 2015, CCL continued its active role in a number of international initiatives and processes in the safety domain, including the participation of its representative in EUROCONTROL Safety Team (comprising the safety managers of European air navigation service providers). As a part of its contribution to the FAB CE activities, CCL actively participated in the Safety Sub-Committee.

## 5.2. Quality Management

Quality Management System (QMS) was established, documented, applied and maintained by CCL, in compliance with the requirements of the international standard ISO 9001. The certificate was issued to CCL by Bureau Veritas Croatia. The scope of activities covered by ISO 9001 certificate includes



the provision of all four services (ATS, CNS, AIS, MET). All these services are managed in compliance with applicable national and international standards. The criteria for efficient management of CCL's business processes are set by the Quality Management Manual, while the services provided to the users are described in relevant operating manuals. The Company Management ensures, by means of the established Quality Policy, that the user requirements are identified and complied with in order to increase their measurable satisfaction. The quality of CCL's services is granted by an integrated QMS, which is periodically reviewed and assessed for its long-

term suitability, adequacy and effectiveness. During 2015 CCL continued to upgrade the quality management system. CCL established and applied British Standard for Occupational Health 'BS OHSAS 18001 and implemented the Environment Management in accordance with the international standard ISO 14001

### 5.3. Environment Management System



CCL adopted Environmental Policy in January 2015, thus strongly confirming its commitment to the highest standards in safety, quality and environmental issues of provided services, taking into account:

- compliance with legal and other requirements relating to environmental protection,
- preservation and rational use of natural resources,
- prevention of pollution as a basic approach to the environmental management,
- ensuring conditions for separate collection of all types of waste,
- staff preparedness and skill to act in the event of accidents,
- need for continuous upgrade of the environmental management system,
- constant care of pollution prevention,
- selection of suppliers according to the environmental protection requirements.

In March 2015 the independent certification company „Bureau Veritas Croatia“ performed the audit in CCL., in the course of which it confirmed the compliance of the established environmental management system with ISO 14001:2004. In April 2015, CCL was certified to ISO 14001:2004 for all locations and for air traffic services, communication, navigation and surveillance services, aeronautical information services and aeronautical meteorological services. By making this step, CCL confirmed its commitment to continuous improvement of the established processes. The emphasis of all activities strives at the elimination of non-compliances occurring in the environmental management system,

with priority given to preventive actions and permanent control of all work activities. On the basis of the criteria for the evaluation of the importance of environmental aspects, i.e. meeting the existing legal requirements, technical, technological, and financially feasible activities with the aim of reducing the pollution as well as the influence of the public, the environmental aspects in CCL were divided into the lists of significant and general aspects. The mentioned aspects are regularly monitored and updated and the newly identified aspects are subject to analysis in line with the aforementioned criteria.

As a consequence, CCL has developed plans in which environmental objectives are described, such as:

- reducing the level of EM radiation,
- creating requirements for noise abatement,
- route network and airspace optimization,
- improvement of power supply management,
- reducing the noise of central air conditioning system,
- waste disposal site upgrade.

CCL has achieved the status of a prestigious and highly competent air navigation services provider, and it strives to maintain the highest possible level regarding safety and quality of provided services, at the same time satisfying the requirements of its customers and taking care of the interests of its owner and the community.

Environmental concerns make important part of CCL activities within the implementation of Free Route Airspace project through which significant savings in CO<sub>2</sub> and NO<sub>x</sub> emissions are to be achieved. Furthermore, PBN LPV (Performance Based Navigation Procedures, Localizer performance with vertical guidance) procedures for approach in Dubrovnik and Zagreb were developed, thus enhancing protection of the environment.

The benefits of the implementation of aforementioned procedures consist of improved efficiency in the approach phase of flight. Optimized use of airspace enables airlines/customers to save money and time while advancing the environmental protection in this phase of flight.

In September 2015 CCL completed the installation of solar panels on the roof of its parking lot and commissioned a 345 kW photovoltaic (PV) power plant which is meant to supply almost one-third of the daily electric energy consumption at its headquarters facility in Velika Gorica. Besides, the enhancement of its electric power system through the use of renewable energy sources, positive effects of energy conservation measures and rational energy consumption testify to CCL's social responsibility.



CCL is one of the first air navigation service providers in Europe to use the renewable energy source generating a great part of necessary electric power for its everyday operations. All our employees are committed to achieving common and specific objectives in environmental protection making their individual contribution to it and carrying out their tasks with acceptable measure of environmental impact. CCL representatives are closely monitoring the global and EU climate change policies as well as national programs aimed at reducing emissions. Upon the accession of Croatia to EU, we became a part of the system of EU obligations – joint emission reduction to 20% below 1990 level. The Ministry of Environmental and Nature Protection is currently working on a Strategy that will contain the guidelines on how to achieve sustainable development of low-carbon economy. The strategies of various sectors, including transport, shall also play a significant role in this Strategy. Namely, for an efficient implementation of a strategy it is important to integrate the measures of emissions reduction into transport strategies and development plans/programs.

## 5.4. Security Management

CCL contributes to maintaining the high level of security in air transport. During 2015, CCL proceeded to upgrade its security management system in all important segments:

- protection of staff and other persons of concern,
- protection of facilities and infrastructure,
- security of information and procedures.

CCL raised the level of passive protection of some of its critical assets at the Head Office and in the regional branches. Within the scope of various CNS infrastructural projects, a number of security-related measures have been either started or planned on various CCL sites which are due to be put into effect in the period 2016-2017. Electronic movement control system in CCL regional branches Pula and Dubrovnik was completed and put into operation.

The cooperation with relevant authorities regarding regular patrols at our remote sites throughout the country was functioning as previously agreed upon.

Security awareness campaign for CCL staff and for the personnel who do not have full employee status in CCL (working either on various types of work contracts or in special trainee programmes), progressed according to the plan in three different modules (written exams included):

- basic module
- special module for members of the CCL management
- special module for security officers working on outsourcing contracts at CCL Head Office

According to the national legislation and in cooperation with the relevant authorities, background checks for security personnel and for designated categories of CCL staff were carried on as planned.

Extensive risk assessment for two items of national critical infrastructure managed by CCL was completed, preceding the work on the relevant security plan.

CCL security experts took part in other projects of security significance, i.e.:

- coordination with military authorities on various issues of mutual interest;
- coordination with Ministry of Interior on a number of issues of common security interest;
- ensuring the protection of operative and administrative data and systems (upgrading of protection architecture for CCL services accessible via internet).



## 5.5. SES Certification and Safety Oversight



In March 2009 CCL was certified in accordance with the Regulation on Terms and Conditions for the Certification of Air Navigation Service Providers, which was compliant with valid SES legislation, in particular with the EC Regulation No. 550/2004 (later amended by the Regulation No. 1070/2009), Regulation No. 2096/2005 (later superseded by the Regulation No. 1035/2011) and Regulation No. 1315/2007 (later superseded by the Regulation No. 1034/2011). Afterwards an extensive safety oversight programme was undertaken by the Croatian Civil Aviation Agency, in which CCL contributed by allocating significant resources in order to facilitate the relevant audits. In August 2013 CCL was re-certified in accordance with relevant SES regulations and the oversight programme has continued.







## 6. Additional Services

### 6.1. Aeronautical Meteorology (MET)



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CCL also provides aeronautical meteorology services, paying attention to continuous improvement of services, education of the staff and regional cooperation.

Two seminars were held for MET forecasters and were attended by many MET experts from various states in the region.

CCL MET Division personnel actively participated in the International Conference on Alpine Meteorology (ICAM), in several EUMETCAL and ECMWF workshops and in the EUROCONTROL seminar Oversight of Provision of Met Information (LEX-MET). They were also active in ICAO's regional office meteorology group (METG) regarding SIGMET coordination within the EUR Region. A formal request to obtain observer status in MET Alliance was sent. MET personnel actively participated in the preparation for CCL's involvement in the SESAR 2020 programme.

Graphical 3-day forecasts for Zagreb ACC were introduced, and a new product for ATM called ATM Convection Nowcast, which covers 6 hours forecast period, was tested during the summer. MET service for low level flights was changed and the MET Division started issuing a new product, GAFOR. A project for installing cameras for VFR flights was launched.

An agreement was signed with the Meteorological and Hydrological Service of Croatia on the use of meteorological data, which also ensures data backup via the Internet. The agreements on scientific and expert cooperation were signed with the Meteorological and Hydrological Service and the Faculty of Science of the University of Zagreb.

A complete analysis of wind forecasting was performed. Methods for forecasting wind shear and so-called deep Bura in the Dubrovnik area were improved. The MET Division elaborated the ideas for the "Bura Dubrovnik" project in order to create a decision making system for Bura events at Dubrovnik airport. The consent for participation in the "Bura Dubrovnik" project was signed by the Meteorological and Hydrological Service of Croatia, the Faculty of Science of the University of Zagreb, the Faculty of

Transport and Traffic Engineering of the University of Zagreb, Croatia Airlines and Dubrovnik Airport.

CCL MET Division completed the implementation of competence assessment according to WMO and ICAO requirements.

MET Division improved the configuration of its main information system Visual Weather.

MWO Zagreb moved to new offices. After more than 50 years, our central operational service obtained adequate facilities, which provides the basis for future quality work

## 6.2. Aeronautical Information Services (AIS)

CCL also provides Aeronautical Information Service (AIS) - providing aeronautical data and information necessary for the safety, regularity and efficiency of both international and national air navigation in Croatian airspace.

AIS department had been certified to ISO 9001 standard from 2005-2011, and current CCL certificate for all services, including the AIS, confirms the compliance with the requirements of ISO 9001. It consists of:

- International NOTAM office, operational 24 hours a day;
- Aeronautical Publications office.

AIS department provides all elements of the Integrated Aeronautical Information Package - IA-P - (AIP AMDT/SUP, AIC, NOTAM and PIB, a list of valid NOTAMs and checklists) and additional publications such as VFR Manuals and VFR Chart with recommended VFR routes. All products are available in English or as bilingual publications, except for AICs series B that are in Croatian, which are for that reason distributed only in Croatia.

Since late 2007, AIS department has fully migrated to the European Aeronautical Database (EAD), where all aeronautical information is available in electronic format via the EAD SDO, INO and PAMS modules. All the elements from the IAIP are based on the same data source in the database (SDO), except for charts that are currently provided from a separate source and as such incorporated in the eAIP. The electronic AIP of the Republic of Croatia has been available, both in English and Croatian, since early 2012.

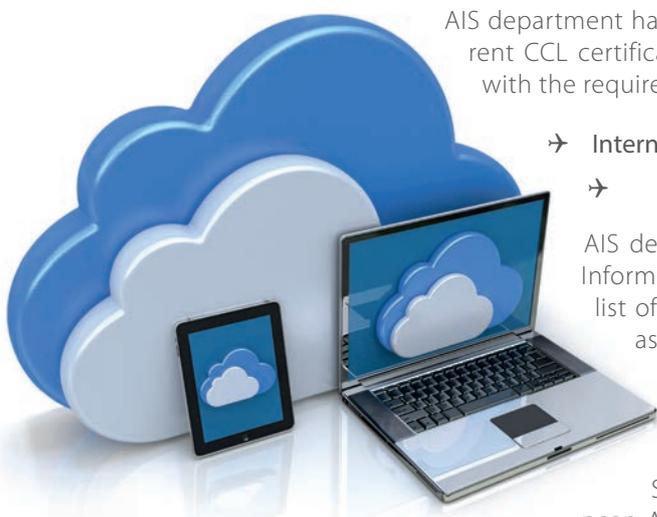
By the end of 2016, a new local database is expected to be obtained to allow the provision of digital aeronautical data and information in the course of 2017.

Charts are prepared by the Aeronautical navigation, procedure design and cartography department.

Preflight briefing is provided by the ATS reporting offices (ARO) located at aerodromes. The AROs use a local system NOTAM database for pre-flight briefing and combining it with other relevant documentation for briefing purposes.

Evolution of the Aeronautical Information Services has been achieved in terms of processes and integrated management systems enhancements through the CroQADI project stated under chapter 4.6 of this report and is further planned for the originating data quality improvements, as well as for data sets exchange through the Project of modernisation of the AIS Data Base, also stated under chapter 4.6.

Aeronautical information is also provided for reference purposes through the CCL / AIS web pages, and through web pages of the EAD.







# 7. Performance

## 7.1. Traffic

There were more than 530.000 IFR GAT operations in 2015 within CCL area of responsibility, which is the increase of 1.82% compared to 2014.

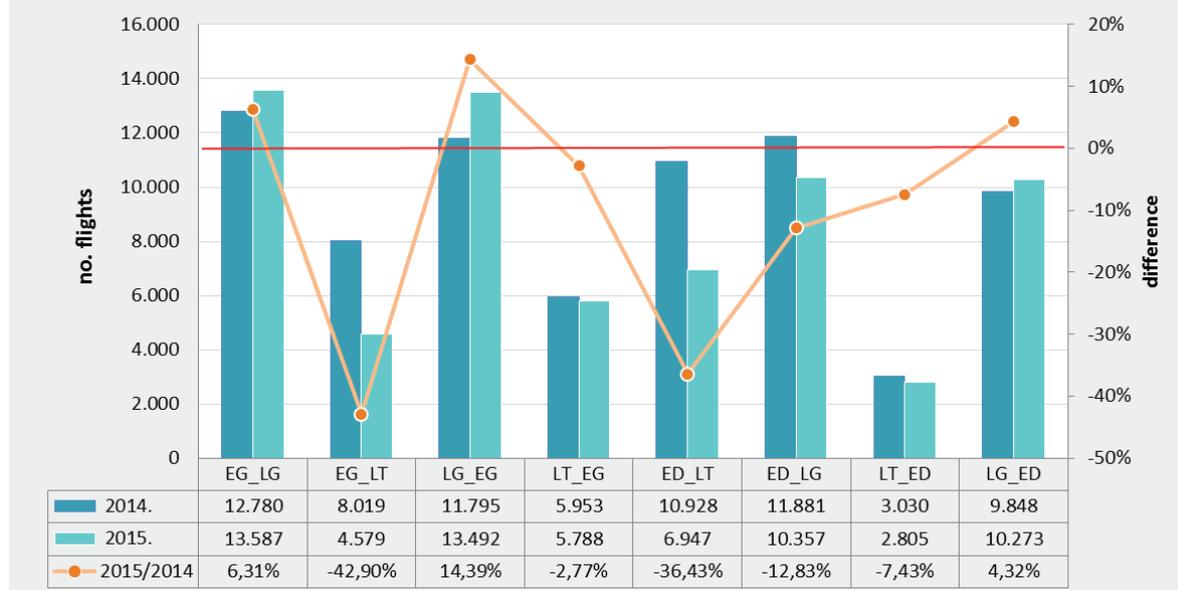
During the summer season (May to October), traffic in Croatia decreased by 0.2% when compared to the same period during 2014.

Variations in traffic patterns resulted in change in the most frequent country pairs through Croatian airspace mainly between Germany and Greece, and UK and Turkey, while other frequent country pairs situated on the South-East Axis also produced a change as shown in the picture below.

Year	GAT Traffic (IFR Operations)	% change
2007	385,594	+16.9%
2008	411,553	+ 6.7%
2009	419,826	+ 2.0%
2010	457,205	+8.9%
2011	497,492	+8.8%
2012	496,242	-0.25%
2013	<b>494,217</b>	<b>-0.43%</b>
2014	<b>522,026</b>	<b>+5.63%</b>
2015	<b>530,377</b>	<b>+1.82%</b>

Traffic growth in Croatia (source: NM DWH through FMP)

ACC Zagreb country-pairs  
from 5 to 10 month 2015. vs. 5 to 10 month 2014.



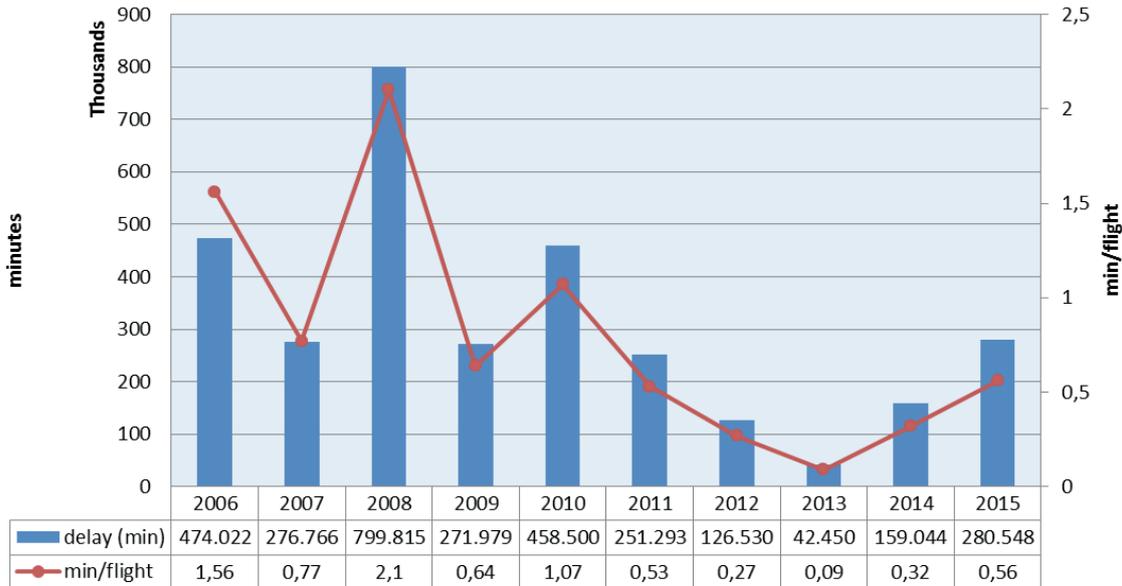
## 7.2. Delay

The year 2015 ended with a delay of 0.57 min/flight (according to STATFOR records). The target was 0.23 min/flight. The causes of delays were weather conditions (29%) and staffing/capacity (71%). Applying ATFM regulations to reduce traffic flows into collapsed sectors instead of opening the appropriate number of sectors to provide the required capacity in the period May-July were, inter alia, caused by the unexpected and very high rate of staff sick leaves. The highest delays were accumulated in June and July (approx. 200,000 minutes). Additional approx. 60,000 minutes were accumulated

in other two peak months August-September 2015 when the delay figure was better than the year before (in the same period). There were no significant delays out of the period May-September. New Collective Labour Agreement was signed in July 2015 enabling additional arrangements for improving capacity/delay performances for the year 2016 and beyond.

The plan of delays for 2016 is 0.22 min/flight decreasing this value over next several years in order to achieve 0.19 in the year 2019.

### Delay - ACC Zagreb



Trend of delays over years (source CCL FMP)

### Capacity Developments

Zagreb ACC baseline capacity has decreased by 3.5% in 2015 and now amounts to 138 IFR GAT operations per hour. The ACC capacity baseline is the result of many combined factors. CCL is now facing further challenges in keeping the performance within the planned and set limits.

#### LDZOCTA - Reference capacity profile and alternative scenarios

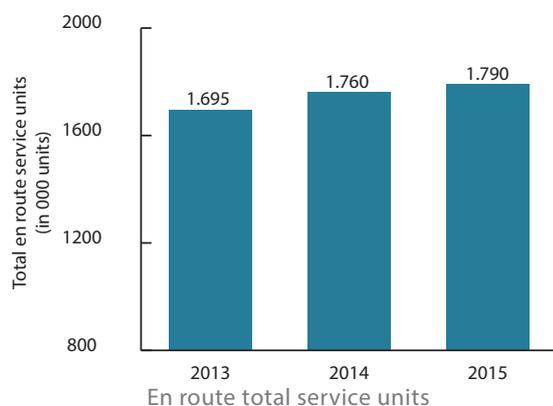


CCL capacity targets are set with an emphasis on continuous improvements in manpower planning in order to reduce the capacity shortfalls, especially in peak summer periods.

During RP2 a steady growth of ACC baseline is predicted, in line with the available STATFOR forecast.

### 7.3. Service Units and Unit Rate

Following 2014 traffic increase of +3.9%, expressed in en route total service units, the Company still managed to increase its 2015 performance further by +1.7% on top of 2014, reaching the historically highest 1.79 million in total en route service units provided to the air-space users during 2015.



In regard to terminal traffic performance, the Company continued its upward trend in the provision of service units. During 2015, the Company managed to further increase the total number of terminal service units by 4.3%, reaching approximately 42.7 thousand.

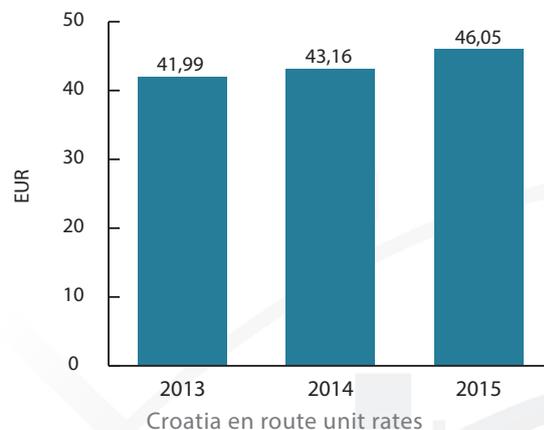


Total budgeted en route costs for 2015 (associated with the approved FAB-CE/Croatia RP2 Performance plan ("PP") were initially proposed, critically reviewed (both in the process of developing RP2 PP as well as during the consecutive CER sessions) and accepted by the regular EC/EUROCONTROL governing bodies at the level

that resulted in budgeted 2015 en route unit rate (of EUR 46,05) being increased compared to 2014 (EUR 43,16).

Reason for that was based upon the estimations that existed in time of development of 2015 traffic (i.e. capacity) forecasts, all with a view to provide for uncontrollable taxes increase during 2014 (and therefore materialised in 2015 plans) and to ensure a necessary resources for 2015 planned strategic investments and activities. In this sense, commitment on delivering the required RP2 operational capacity, which develops along with the recorded and expected traffic magnitude and structure, associated with a required level of safety had to be respected as well as the expected complex and permanent engagement on BH ATM transition process.

The following further depicts the Company's budgeted unit rates trend.



During 2015, the Company managed to deliver, regionally and FAB CE wide, highly competitive and cost efficient performance, proof of which was reflected in recorded better cost efficiency performance (DUC KPI) than what was target set targeted for 2015, even though a hiring of additional resources in terms of 2015 cost base were necessary. These resources were of utmost necessity for the purpose of financing: a complex and delicate investment cycle (core of which was multinational and complex CroATM/COOPANS), required delivery on other KPA targets set in RP2 PP, while continually delivering on highly complex, multilateral and cross-bor-

der project of BH ATM transition. As was the case throughout the recorded history, fundamental prerequisite for such a performance was that required safety initiatives are in place and effectively running.

As a result of such commitment and as was the case during the previous consecutive periods as well, Croatia (strongly and most significantly supported by CCL performance) managed to provide ANS at a competitive en route unit rate during 2015.

According to final budgeted figures of en route unit rates for 2015, the following are the values for the Republic of Croatia compared to region and FAB CE partners.



Furthermore, starting from January 2014 Croatia introduced two terminal charging zones with two individual terminal unit rates. Budgeted 2015 terminal unit rates were EUR 228.21 (2014 EUR 192.3) for Zagreb terminal (including LDZA and LDZL) and EUR 244.91 (2014 EUR 236.6) for other ATC centres in Croatia.

## 7.4. Costs and Income

Even though an increase in the number of IFR GAT operations as well as in service units provision was recorded during 2015, the Company still managed to control and contain its actual total cost incurred during 2015 (-1.0% compared to consolidated annual plan for 2015). This resulted in 2015 total actual costs incurred in amount of EUR 94.3 million (+5.6% compared to 2014).

The aforementioned cost development proves to be even more disciplined given the:

- traditionally recorded substantially seasonable air traffic demand pattern which highly characterises Croatian airspace and puts adverse pressure on the capacity costs and management,
- complex and continual 2015 investment activities based upon the multinational/COOPANS initiatives, all put in place with aim of continual development in efficient and effective Croatian air traffic management system,
- full year financial effect being materialised during 2015, stemming from the increased level of taxes during 2014,
- recorded 2015 traffic developments in terms of continual and more demanding trend recorded in service provision mix (service unit to operations ratio deteriorated) and
- anticipated business risks and commitments for which the adequate provisions against have had to be created.

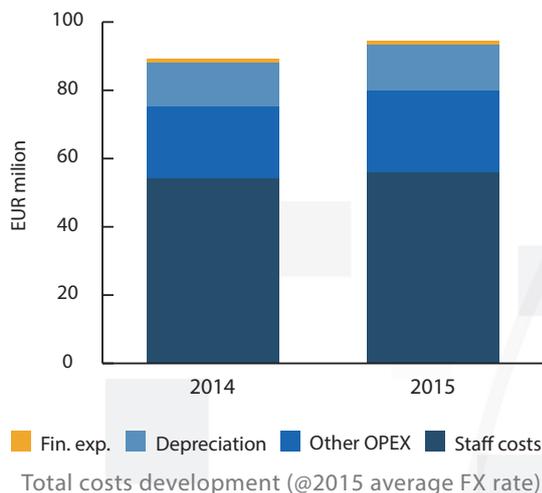
Nonetheless, the Company fully managed to comply with cost efficiency RP2 targets set for 2015

in line with the Croatia/FAB CE PP. Moreover, recorded 2015 performance in cost efficiency KPI proved to be 5% better than target for 2015. As is the case for the whole ANS industry, the most important part of the Company's total cost relates to staff costs (some 59% shareholding in total costs), which were some 5% lower than planned due to tight cost management initiatives conducted throughout the year with specific focus on retirement schedule.

During 2015, approximately EUR 2,6 million in other operational costs incurred by the Company over the 2014 actual level due to:

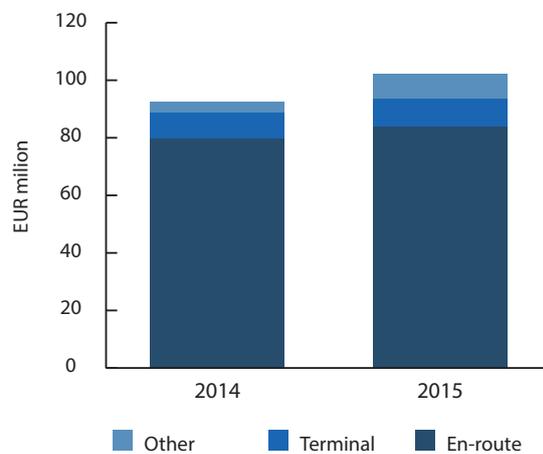
- additional receivables write-offs balances and increased other operating provisions created for the purpose of adequate treatment of anticipated business risks which are expected to materialise during RP2 and further,
- complex and delicate investment cycle with multilateral COOPANS related projects and initiatives in its core, which by all means affected the Company's use of other operating resources,
- financial effects stemming from the wide and intensive SESAR/DM integration and associated projects activities.

Full year depreciation effects stemming from the activation of long term, strategic and for Company the most critical investment project – CroATMS most significantly contributed to 2015 depreciation costs being 4% over the 2014 actuals and reaching 14% in Company's total costs. Financial expenses, accounted for approximately at 1% of the Company's total costs, decreased during 2015 by approximately 10% compared to 2014 records, mostly due to optimised debt structure and recorded 2015 dynamics in average cost of debt.



Having in mind that tourist season 2015 was historically the best in terms of arrivals, and given that competitive ANS unit rates, operational capacity levels and respectable safety standards associated with the ANS provision were assured for business year 2015, then it is well expected that the Company managed to earn around EUR 102.3 million in total revenues (presenting 10.5% increase compared to 2014).

En route charges for the services provided within the Company's area of responsibility, accounted for approximately 82% of total revenues, terminal charges accounted for approximately 10%, while other income accounted for some 8% mostly comprising non-cash reversal of long-term provisions and unrealized positive foreign exchange differences.

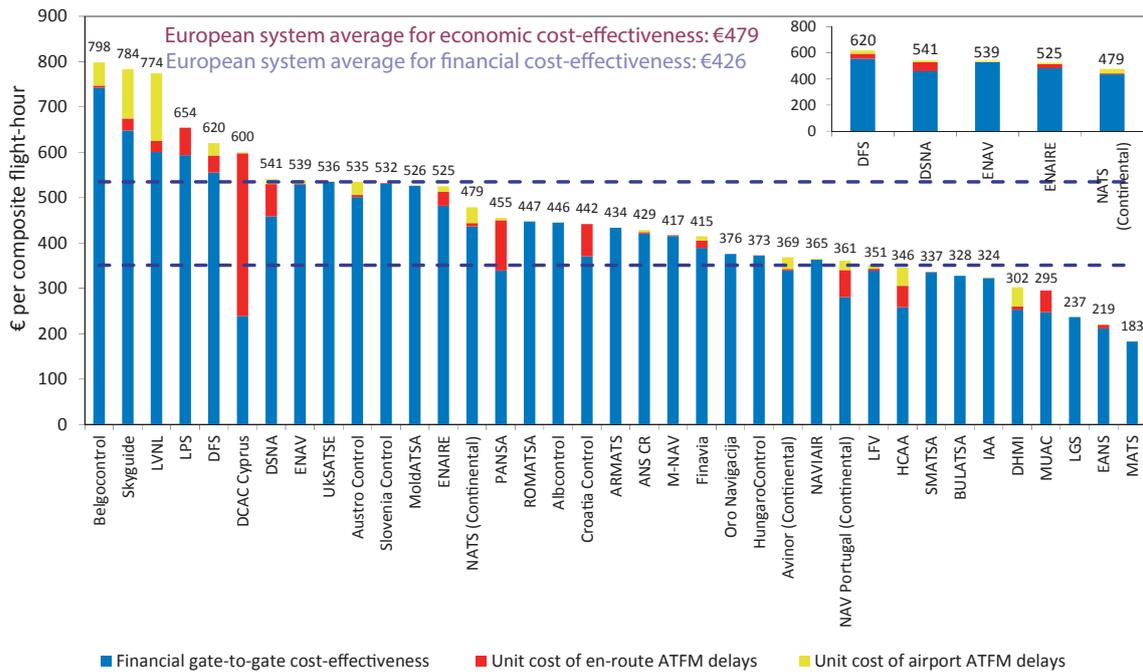


Total revenues development (@2015 average FX rate)

## 7.5. Cost Effectiveness

European ATM performance is regularly monitored by the Performance Review Unit (PRU). PRU's economic cost-effectiveness indicator gives an indication of how well air navigation service providers are performing in providing a cost-effective service.

According to the ATM Cost-Effectiveness (ACE) 2014 Benchmarking Report dated May 2016, average Pan-European system-wide economic gate-to-gate cost-effectiveness as well as financial cost effectiveness indicators were EUR 479 and EUR 426 respectively. During the same period the Company has performed 13% better than the European system average in terms of financial cost effectiveness. Such a performance pushed the Company close to the bottom quartile, meaning that the Company performance is close to group of 25% best performers in terms of financial cost effectiveness.



Economic gate-to-gate cost-effectiveness indicator, 2014

### Cost efficiency KPI



In regard to RP2 KPIs set and declared in Croatia/FAB CE PP for en-route cost efficiency KPA, it is to be noted that the Company **managed to pull off a 5% better performance in terms of cost efficiency KPI (DUC in 2009 prices, real terms) compared to target set for 2015**, all based on 3.5% realised savings in nominal en route costs supported with 1.5% higher traffic than plan, allowing for favourable traffic risk sharing effects.

In terms of financial and business indicators, during 2015 the Company achieved the following performance:

<b>Financial stability, indebtedness and liquidity indicators</b>	<b>2014</b>	<b>2015</b>
1. Coverage of fixed assets and inventories by equity capital and long-term sources	1.36	1.45
2. Share of equity capital in the sources of funding, in %	46.69	50.54
3. Debt factor, number of years	4	3
4. Total asset turnover coefficient	0.70	0.75
5. Overall liquidity coefficient	2.87	3.56
6. Time of collection of short-term receivables, in days	56	56
7. Inventories, in days kept	2	1

<b>Business performance indicators</b>	<b>2014</b>	<b>2015</b>
1. Total income-expenditure ratio	1.04	1.09
2. Profit/loss share in total income, in %	2.80	6.76
3. Profit/loss share in assets, in %	1.95	5.07
4. Profit/loss share per employee, in HRK	27.579	75.332

Source: Financial Agency - FINA, BON – 1 Form

## 7.6. Performance scheme

Croatia, as well as CCL, did not contribute to the performance management during the first reference period (RP1). After becoming the EU member (in July 2013), Croatia started with preparatory activities for the contribution to RP2 performance management as of 2015. For RP2, with a view to achieving sustainable development of the air traffic management system and improvement of overall efficiency of air navigation services, the EC adopted the Commission Regulation (EU) No. 390/2013 defining key performance areas (KPAs), key performance indicators (KPIs) and respective performance targets, performance indicators (PIs), as well as the performance planning and measurement processes. The regulation mandates the development of performance plans on FAB level. This has implied CCL's participation in the development of FAB CE performance plan for RP 2 (2015-2019). Since late 2013, CCL has together with air navigation service providers (ANSPs) from Austria, Czech Republic, Hungary, Slovakia and Slovenia actively participated in the development of FAB CE performance plan. In the spring of 2014, FAB CE performance plan was presented to stakeholders and social partners at consultation workshops and then sent to the EC for assessment. Based on the EC assessment of FAB CE performance plan, CCL modified some parts of the plan and participated in additional consultations with the EC and the FAB CE partners. Consultations were continued in 2015 with the objective to have the updated FAB CE Performance Plan, consistent with EC decisions.





# 8. Human Resources

## 8.1. Human Resources Management Policy

CCL pays special attention to human resources management, with a training system geared to ensure training, acquiring and continuous maintaining of competencies and experience to achieve international and national standards. The Company employs the staff with adequate qualifications, to enable safe, high quality and continuous provision of services.

## 8.2. Employees

In 2015, the total number of employees in the Company was 715. The total number of employees who left CCL during 2015 was 23, out of which 16 employees were retired pursuant to valid regulations and the Retirement Plan.



Air traffic controllers and on-the-job trainees make the largest share of the workforce. Their numbers at different operational units are shown below (status on 31 Dec 2015):

Location	ATCOs	ATCO Students
Zagreb ATCC - ACS	101	16
Zagreb ATCC - APS	19	0
Zagreb ATCC - ADI/ADV	18	1
Osijek ATCC	3	0
Pula ATCC	21	0
Split/Brač ATCC	29	0
Zadar ATCC	19	0
Dubrovnik ATCC	20	0
Rijeka ATCC	7	0
Lošinj ATCC	2	0
ATCOs on other duties in ATM Division	21	0
<b>TOTAL</b>	<b>260</b>	<b>17</b>



### 8.3. Employment and Recruiting

CCL is fully committed to pursuing the principle of equal opportunities and dignity of every individual in its recruiting and employment policy.

The selection of candidates for air traffic controllers, technical staff, administrative and supporting aeronautical staff is conducted in compliance with the predefined testing procedures. In addition to the FEAST (First European Air Traffic Controller Selection Test) program, the assessment centre was introduced in the recruitment process of air traffic controller candidates. The selection of technical staff, supporting aeronautical staff and administrative staff was conducted in CCL according to the internal testing procedures.

### 8.4. Training

- Basic Training for a group of 9 ATCO trainees was conducted at the Faculty of Traffic and Transport Engineering, University of Zagreb.
- Basic Training for another group of 18 ATCO trainees started at the Faculty of Traffic and Transport Engineering, University of Zagreb, which will be completed in March 2016.
- 8 ATCO trainees completed the ACS/RAD Rating Training at Entry Point North (EPN) and started with the Unit Training.
- 2 ATCO trainees completed ADV Rating Training at EPN and started with the Unit Training for the LDZL ADV rating/endorsement.
- 12 ATCO trainees completed APS/RAD/TCL Rating Training at Entry Point North and 11 of them completed the Unit Training at relevant units.
- 1 ATCO with a licence and LDLO ADI/TWR and APP rating/endorsement completed the Unit Training for LDZA ADI/TWR rating/endorsement.
- 1 ATCO with a licence and LDPL APS/RAD/TCL rating/endorsement completed the Unit Training for LDZA APS/RAD/TCL rating/endorsement.
- 7 ATCOs completed LDZO ACS/RAD Unit Training, and acquired licences with relevant ratings and endorsements.
- Transitional Training for the work on the new COOPANS ATM System (according to the Training Plan CroATMS to COOPANS) was completed for all ATCOs from the Zagreb, Pula, Zadar, Split and Dubrovnik ATCCs.
- Staff development, refresher and emergency training courses were provided either by CCL or in cooperation with EPN, ENAV, DFS, and the EUROCONTROL Training Institute in Luxembourg (IANS).
- All training plans (for ATCOs, ATSEP and all other staff) comply with current EU regulations.





# 9. Outlook and Priorities for 2016

In 2016, the Company is still faced with challenging and critical activities. Besides the short-term goals and priorities, the Company continues to undertake some activities of critical importance given the strategic orientation. Goals and priorities for 2016 comprise the following:

→ **Organizational structure**

- review of existing organizational structure, update and implementation of a new organizational structure;

→ **Technical systems**

- continuous upgrade of ATM system based on harmonized COOPANS platform;
- realization of critical investment projects according to an investment plan;

→ **Regional ATC centres**

- implementation and integration of ANS facilities and systems;

→ **Safety**

- continuous improvement of SMS maturity;

→ **Capacity**

- average annual ATFM en-route delay at 0.22 minutes/flight;
- annual increase of baseline capacity by 3%;

→ **FUA**

- improvement in functionality and efficiency of Airspace Management Cell (AMC);
- preparation of AFUA concept implementation at AMC level;

→ **Quality management systems**

- initiation of Information Security Management System project to comply with ISO 27001;
- recertification of occupational health and safety management systems (OHSAS) in compliance with BS OHSAS 18001 standard;

→ **Meteorology**

- continuous improvement of an existing MET services according to users' needs;

→ **Cooperation with the Ministry of Defence of the Republic of Croatia**

- conclusion of bilateral agreements between the Ministry of Defence and CCL;

→ **Human resources management**

- continuous staff education aimed at delivery of required service quality to airspace users;

→ **Finance**

- maintaining the financial stability indicator less than 1;
- keeping the total income to expenditures ratio above 1;

→ **International cooperation and projects**

- feasibility study and cost-benefit analysis of EPN business combination;
- SESAR 2020 – completion of activities up to Phase 5.

# 10. Financial Statements and Auditor's Report

## Responsibility for the Financial Statements

The Management Board of the Company **CROATIA CONTROL LTD**, Velika Gorica, Rudolfa Fizira 2 ("the Company") is responsible for ensuring that the annual financial statements of the Company for the year 2015 are prepared in accordance with the Accounting Act (Official Gazette No 109/07, 54/13, 121/14) and the International Financial Reporting Standards effective in the European Union, to give a true and fair view of the financial position, the results of business operations, the changes in equity and the cash flows of the Company for that period.

On the basis of the review, the Board has a reasonable expectation that the Company has adequate resources to continue in operational existence for the foreseeable future. Accordingly, the Board has prepared financial statements under the assumption that the Company is a going concern.

In preparing these financial statements, the Board is responsible for:

- selecting and consistently applying suitable accounting policies;
- giving reasonable and prudent judgments and evaluations;
- applying valid financial reporting standards and is responsible for disclosure and explanation in the financial statements of any deviations that is of material importance and
- preparation of the financial statements on the going concern principle unless such an assumption is not further appropriate.

The Board is responsible for keeping proper accounting records, which shall reflect with reasonable accuracy at any time the financial position and the results of operations of the Company and their compliance with the Accounting Act (Official Gazette No 109/07, 54/13, 121/14) and the International Financial Reporting Standards. The Board is also responsible for safeguarding the assets of the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Signed on behalf of the Board:

  
Dragan Bilać, Director General

CROATIA CONTROL LTD

Rudolfa Fizira 2

10 410 Velika Gorica

20 May 2016

# Independent Auditor's Report

To the owners of the company CROATIA CONTROL Ltd, Velika Gorica

1. We have audited enclosed annual financial statements of the company CROATIA CONTROL Ltd., Velika Gorica, Rudolfa Fizira 2 ("the Company") for the year ended 31 December 2015, which comprise the Balance Sheet / Statement of Financial Position as at that date; the Statement of Comprehensive Income; the Statement of Changes in Equity and the Cash Flows Statement for the year then ended; and the accompanying Notes to the Financial Statements which concisely set out the principal accounting policies and other explanations.

## Responsibility of the Company's Management

2. The Company's Management is responsible for the preparation and fair presentation of the enclosed financial statements according to the International Financial Reporting Standards effective in the European Union and for such internal control as Company's Management deems necessary to enable the preparation of financial statements free of material misstatements whether due to fraud or error.

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## Responsibility of the Auditor

3. Our responsibility is to express an opinion on the enclosed financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance that the financial statements are free of material misstatements.

An audit includes performing of procedures to obtain audit evidence supporting the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatements in the financial statements, whether due to fraud or error. In making these risk assessments, the auditor considers internal controls relevant to the Company's preparation and fair presentation of the financial statements in order to conduct audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of internal controls. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by Company Management, as well as evaluating the overall presentation of the financial statements.

We believe that audit evidence we had obtained is sufficient and suitable as a basis for expressing our opinion.

## Opinion

4. In our opinion, the enclosed financial statements present fairly, in all material respects, the financial position of the Company as at 31 December 2015, and its financial performance and the cash flows of the Company for 2015, according to the Accounting Act and the International Financial Reporting Standards effective in the European Union.

### Opinion on the adjustment to other legal and regulatory requirements

5. The Company's Management is responsible for the preparation of the annual financial statements of the Company for the year ended 31 December 2015 in prescribed form on the basis of the Ordinance on the structure and content of annual financial statements (Official gazette No 38/08,12/09,130/10) and in accordance with the other provisions which regulate the operations of the Company ("Standard Annual Financial Statements"). The financial information set out in the standard annual financial statements of the Company are in accordance with the information stated in the annual financial statements of the Company shown on pages 4 to 45 which were the object of our opinion, as set out in the section Opinion, above.

### Opinion on consistency to Annual statement

6. The Company Management is responsible for the preparation of the Annual report of the Company. As a result of the provisions of Article 17 of the Accounting Act, we are obliged to express an opinion on consistency of the Annual report of the Company with the annual financial statements of the Company. In our opinion, on the basis of the performed audit of the annual financial statements of the Company and the comparison with the Annual report of the Company for the year which ended 31 December 2015, the financial information set out in the Annual statement of the Company for 2015, approved for their issuance by the Company Management, are in accordance with the financial information set out in the annual financial statements of the Company set out on pages 4 to 45 which were the object of our opinion, as set out in the section Opinion, above.

In Zagreb, 20 May 2016

BDO Croatia d.o.o.  
Trg J. F. Kennedy 6b  
10 000 Zagreb

  
Darko Karić, certified auditor

  
Zdenko Balen, member of the Management





**STATEMENT OF COMPREHENSIVE INCOME**  
**For the year ended 31 December 2015**

		2015	2014
	Note	in HRK	in HRK
Sales revenue	3	716,796,363	676,625,942
Other operating revenues	4	56,493,067	24,345,494
<b>Operating revenues</b>		<b>773,289,430</b>	<b>700,971,436</b>
Raw material and material costs	5	(11,116,388)	(10,100,274)
Other external costs	6	(49,075,865)	(43,337,658)
Material costs		(60,192,253)	(53,437,932)
Net salaries and wages		(199,685,449)	(187,555,354)
Costs for taxes and contributions from salaries		(151,828,152)	(152,652,254)
Contributions on gross salaries		(75,531,113)	(71,682,482)
Staff costs	7	(427,044,714)	(411,890,090)
Depreciation	8	(101,772,030)	(97,872,073)
Other costs	9	(31,813,311)	(31,766,693)
Impairment of short-term assets		(826,991)	(2,218,520)
Impairment	10	(826,991)	(2,218,520)
Provisions	11	(82,333,278)	(46,475,311)
Other operating expenses	12	(5,663,186)	(26,952,904)
<b>Operating expenses</b>		<b>(709,645,763)</b>	<b>(670,613,523)</b>
Interest income, foreign exchange gains, dividends and similar income from non-related parties and other entities		5,696,997	3,823,495
<b>Financial income</b>	13	<b>5,696,997</b>	<b>3,823,495</b>
Interest expenses, foreign exchange losses and similar expenses from non-related parties and other entities		(8,066,452)	(8,977,779)
<b>Financial expenses</b>	14	<b>(8,066,452)</b>	<b>(8,977,779)</b>
<b>TOTAL INCOME</b>		<b>778,986,427</b>	<b>704,794,931</b>
<b>TOTAL EXPENSES</b>		<b>(717,712,215)</b>	<b>(679,591,302)</b>
<b>PROFIT BEFORE TAXATION</b>		<b>61,274,212</b>	<b>25,203,629</b>
Profit tax	15	(12,634,206)	(5,484,696)
<b>PROFIT FOR THE PERIOD</b>	31	<b>48,640,006</b>	<b>19,718,933</b>
<b>NET OTHER COMPREHENSIVE INCOME FOR THE PERIOD</b>		<b>-</b>	<b>-</b>
<b>COMPREHENSIVE INCOME FOR THE PERIOD</b>		<b>48,640,006</b>	<b>19,718,933</b>

**BALANCE SHEET / STATEMENT OF FINANCIAL POSITION**  
**As of 31 December 2015**

		At 31 Dec 2015	At 31 Dec 2014
	Note	in HRK	in HRK
<b>ASSETS</b>			
Concessions, patents, licenses, merchandise and service brands, software and other rights		227,818,394	225,470,968
Advance payments for the acquisition of intangible assets		4,795,373	4,181,001
Intangible property in the course of preparation		6,730,369	26,094,751
<b>Intangible assets</b>	16	<b>239,344,136</b>	<b>255,746,720</b>
Land		48,649,949	48,649,949
Buildings		88,972,937	100,439,138
Facilities and equipment		111,175,095	126,931,451
Instruments, facility inventories and transportation assets		11,611,654	8,036,361
Prepayments for tangible assets		4,381,060	2,573,560
Tangible assets in the course of preparation		34,233,133	37,285,231
<b>Tangible assets</b>	17	<b>299,023,828</b>	<b>323,915,690</b>
<b>Financial assets</b>	18	<b>45,810</b>	<b>45,969</b>
<b>Deferred tax assets</b>	19	<b>19,260,756</b>	<b>9,131,095</b>
<b>LONG-TERM ASSETS</b>		<b>557,674,530</b>	<b>588,839,474</b>
Raw material and supplies		2,255,710	2,545,399
Prepayments for stocks		-	77,672
<b>Inventories</b>	20	<b>2,255,710</b>	<b>2,623,071</b>
Accounts receivable	21	111,851,595	109,445,350
Receivables from employees and shareholders	22	51,121	50,961
Receivables from government and other institutions	23	2,359,639	2,485,130
Other receivables	24	222,239	111,090
<b>Receivables</b>		<b>114,484,594</b>	<b>112,092,531</b>
Loans, deposits and similar		214,935,526	191,665,307
<b>Financial assets</b>	25	<b>214,935,526</b>	<b>191,665,307</b>
<b>Cash at bank and in cashier</b>	26	<b>147,093,936</b>	<b>110,660,467</b>
<b>SHORT-TERM ASSETS</b>		<b>478,769,766</b>	<b>417,041,376</b>
<b>Prepaid expenses and accrued income</b>	27	<b>3,180,537</b>	<b>6,749,953</b>
<b>TOTAL ASSETS</b>		<b>1,039,624,833</b>	<b>1,012,630,803</b>
<b>OFF-BALANCE SHEET NOTES</b>	40	<b>392,555,273</b>	<b>395,267,804</b>

**BALANCE SHEET / STATEMENT OF FINANCIAL POSITION**  
**As of 31 December 2015 - continued**

	Note	At 31 Dec 2015 in HRK	At 31 Dec 2014 in HRK
<b>CAPITAL AND LIABILITIES</b>			
<b>Subscribed capital</b>	28	<b>412,759,600</b>	<b>412,759,600</b>
Other reserves		21,527,557	1,808,624
<b>Reserves from net income</b>	29	<b>21,527,557</b>	<b>1,808,624</b>
<b>Retained earnings</b>	30	<b>38,481,567</b>	<b>38,481,567</b>
<b>Profit for the current year</b>	31	<b>48,640,006</b>	<b>19,718,933</b>
<b>CAPITAL AND RESERVES</b>		<b>521,408,730</b>	<b>472,768,724</b>
Provisions for pensions, severance pays and similar liabilities		79,387,319	50,155,406
Other provisions		1,056,500	678,500
<b>Provisions</b>	32	<b>80,443,819</b>	<b>50,833,906</b>
Liabilities to banks and other financial institutions		283,978,303	331,301,643
<b>Long-term liabilities</b>	33	<b>283,978,303</b>	<b>331,301,643</b>
Liabilities to banks and other financial institutions	34	54,412,185	54,600,499
Accounts payable	35	26,716,171	31,327,567
Liabilities to employees	36	18,052,294	18,853,969
Liabilities for taxes, contributions and similar fees	37	33,723,949	34,595,004
Other short-term liabilities	38	5,642,966	5,857,843
<b>Short-term liabilities</b>		<b>138,547,565</b>	<b>145,234,882</b>
<b>Accrued expenses and deferred income</b>	39	<b>15,246,416</b>	<b>12,491,648</b>
<b>TOTAL CAPITAL AND LIABILITIES</b>		<b>1,039,624,833</b>	<b>1,012,630,803</b>
<b>OFF-BALANCE SHEET NOTES</b>	40	<b>392,555,273</b>	<b>395,267,804</b>



**STATEMENT OF CHANGES IN EQUITY**  
**For the year ended 31 December 2015**

	Share (subscribed) capital	Other reserves	Retained earnings	Profit for the current year	Total
	in HRK	in HRK	in HRK	in HRK	in HRK
<b>At 31 Dec 2013</b>	<b>352,759,600</b>	<b>60,000,000</b>	<b>38,481,567</b>	<b>1,808,624</b>	<b>453,049,791</b>
Distribution of profit	-	(60,000,000)	-	(1,808,624)	<b>(61,808,624)</b>
Increase of capital	<b>60,000,000</b>	-	-	-	<b>60,000,000</b>
Profit for the current year	-	1,808,624	-	19,718,933	<b>21,527,557</b>
<b>At 31 Dec 2014</b>	<b>412,759,600</b>	<b>1,808,624</b>	<b>38,481,567</b>	<b>19,718,933</b>	<b>472,768,724</b>

	Share (subscribed) capital	Other reserves	Retained earnings	Profit for the current year	Total
	in HRK	in HRK	in HRK	in HRK	in HRK
<b>Note</b>	<b>28</b>	<b>29</b>	<b>30</b>	<b>31</b>	
At 31 December 2014	<b>412,759,600</b>	1,808,624	38,481,567	19,718,933	<b>472,768,724</b>
Distribution of profit	-	-	-	(19,718,933)	<b>(19,718,933)</b>
Profit for the current year	-	19,718,933	-	48,640,006	<b>68,358,939</b>
<b>At 31 December 2015</b>	<b>412,759,600</b>	<b>21,527,557</b>	<b>38,481,567</b>	<b>48,640,006</b>	<b>521,408,730</b>



**STATEMENT OF CHANGES IN EQUITY**  
**For the year ended 31 December 2015 - continued**

	Note	2015 in HRK	2014 in HRK
<b>I CASH FLOWS FROM OPERATING ACTIVITIES</b>			
Profit before tax		61,274,212	25,203,629
Depreciation		101,772,030	97,872,074
Increase in short-term liabilities		-	7,862,642
Decrease in inventories		1,647,540	-
Other cash flow increases		5,925,201	50,544,943
Decrease in short-term liabilities		(5,767,323)	-
Increase in short-term receivables		(4,958,278)	(8,538,256)
Increase in inventories		-	(139,484)
<b>NET CASH FLOWS FROM OPERATING ACTIVITIES</b>		<b>159,893,382</b>	<b>172,805,548</b>
<b>II CASH FLOWS FROM INVESTING ACTIVITIES</b>			
Cash inflows from sale of long-term tangible and intangible assets		77,349	135,839
Cash inflows from interest		3,899,567	3,079,750
<b>Total cash inflows from investing activities</b>		<b>3,976,916</b>	<b>3,215,589</b>
Cash outflows for purchase of long-term tangible and intangible assets		(61,598,516)	(62,818,284)
Other outflows from investing activities		(24,527,825)	(153,816,912)
<b>Total cash outflows from investing activities</b>		<b>(86,126,341)</b>	<b>(216,635,196)</b>
<b>NET CASH FLOWS FROM INVESTING ACTIVITIES</b>		<b>(82,149,425)</b>	<b>(213,419,607)</b>
<b>III CASH FLOWS FROM FINANCING ACTIVITIES</b>			
Cash inflows from the loan principals, debentures, credits and other borrowings		6,462,647	27,951,296
Other inflows from financial activities		4,454,753	-
<b>Total cash inflows from financing activities</b>		<b>10,917,400</b>	<b>27,951,296</b>
Cash outflows from the loan principals and bonds		(52,227,888)	(27,530,846)
<b>Total cash outflows from financing activities</b>		<b>(52,227,888)</b>	<b>(27,530,846)</b>
<b>NET CASH FLOWS FROM FINANCING ACTIVITIES</b>		<b>(41,310,488)</b>	<b>420,450</b>
<b>TOTAL NET CASH FLOWS</b>	<b>41</b>	<b>36,433,469</b>	<b>(40,193,609)</b>
<b>CASH AND CASH EQUIVALENTS AT BEGINNING OF PERIOD</b>	<b>26</b>	<b>110,660,467</b>	<b>150,854,076</b>
<b>CASH AND CASH EQUIVALENTS AT END OF PERIOD</b>	<b>26</b>	<b>147,093,936</b>	<b>110,660,467</b>
<b>INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS</b>		<b>36,433,469</b>	<b>(40,193,609)</b>



# 11. Abbreviations

ACC	Area Control Centre
ACS	Area Control Service
ACE	Air Traffic Management Cost-Effectiveness
AIS	Aeronautical Information Services
ANSP	Air Navigation Services Provider
APP	Approach Control Procedure
APS	Approach Control Surveillance
ARN	Aeronautical route network
ARO	ATS Reporting Office
ATC	Air Traffic Control
ATCO	Air Traffic Controller
ATM	Air Traffic Management
ATS	Air Traffic Services
CCL	Croatia Control –Ltd., Croatian Air Navigation Services Provider
CNS	Communication, Navigation and Surveillance
COOPANS	COOPeration between Air Navigation Service providers
CroATMP	Croatian Air Traffic Management Project
CroATMS	Croatian Air Traffic Management System
DCT	Direct Route
DFL	Division Flight Levels
EAD	European Aeronautical Information Database
EC	European Commission

ECAC	European Civil Aviation Conference
EU	European Union
FAB	Functional Airspace Block
FAB CE	FAB Central Europe
FIR	Flight Information Region
HRK	Croatian Kuna
ICAO	International Civil Aviation Organisation
IFR	Instrument Flight Rules
ISO	International Organisation for Standardisation
Ltd	Limited
MET	Meteorological services
MWO	Meteorological Watch Office
NDB	Non-Directional Beacon
NOTAM	Notice to Airmen
OJT	On the Job Trainee
PRU	Performance Review Unit
QMS	Quality Management System
SMS	Safety Management System
STATFOR	EUROCONTROL Statistics & Forecasting Service
SWC	Significant Weather Chart
TMA	Terminal Maneuvering Area
TWR	Tower Control Unit (Aerodrome Control Tower)
VHF	Very High Frequency
WAFC	World Area Forecast Centre





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