



GROUP
■ **tspc**
AIRPORT
DESIGN

TABLE OF CONTENTS

ABOUT THE OFFICE	4
EXPERIENCE OF OUR EXPERTS	7
RUNWAY	9
TAXIWAY	10
APRON	11
HELIPORTS	13
AVIATION PROFESSIONAL MANAGEMENT OF THE DESIGN OF AIRPORT FACILITIES	15
FURTHER COMPETENCE	19
OUR TEAM	22
TSPC GROUP	24
ABOUT TSPC GROUP	26
TSPC GROUP'S SERVICES	27
OFFICES	28



ABOUT THE OFFICE

INTRODUCTION THE OFFICE

The Airport Design Office was established in September 2023 within the TSPC Group, as part of TSPC Mérnökiroda Kft.

There are currently 3 people in the team. The design team has decades of experience and has been involved in almost every aspect of airport development and design.

Our colleagues have the required qualifications of the Hungarian Chamber of Engineers for airport design:

- > **Aviation Facilities Transport Engineering Design Subspecialty (KÉ-LK):**
Ensures the safe and efficient design of the operational processes and technology of air traffic facilities, as well as design of technological and operational facilities of the airport.
- > **Aviation Facilities Civil Engineering Design Subspecialty (KÉ-L):**
Guarantees expertise in the specific requirements of Civil Engineering specialty for runways, taxiways, aircraft stands, airport storage areas.
- > **Expertise Transportation Facilities (SZÉM1):**
Provides additional qualifications for the expertise in airport facilities.

This depth of experience, coupled with our commitment to excellence, makes TSPC the trusted partner for all your airport design needs.





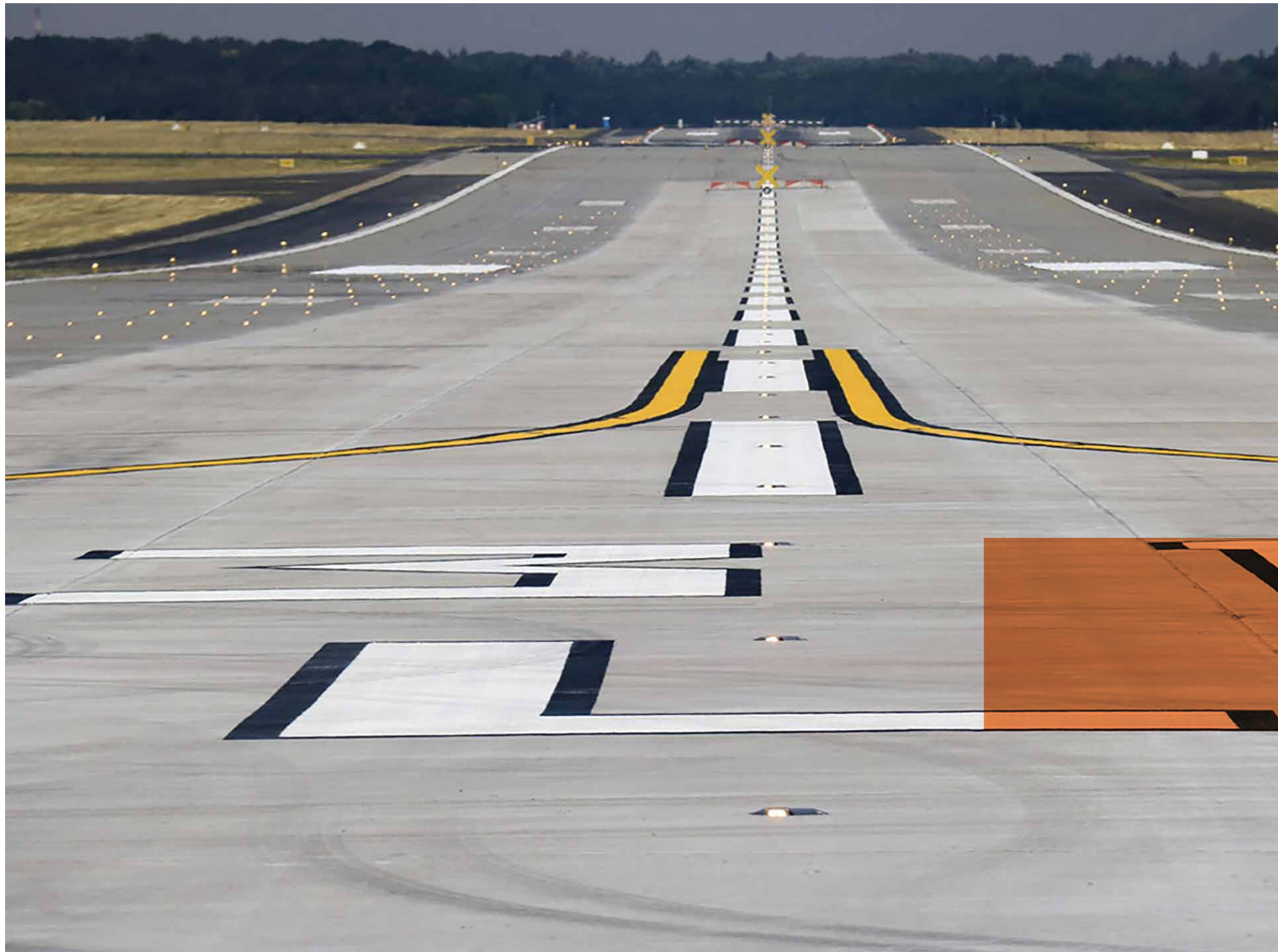
EXPERIENCE OF OUR EXPERTS

A WORLD OF AIRPORT EXPERTISE
FROM PRIVATE HELIPORTS TO INTERNATIONAL HUBS

Our Airport Design Team brings a wealth of experience to the table, having participated in the establishment and development of a diverse range of airports:

- > **Domestic and International:** They've tackled projects for both domestic and international traffic, ensuring smooth operations for all scales of travel.
- > **Low-traffic and high-traffic airports:** Our expertise extends to both private and regional low traffic airports and international high traffic airports.
- > **Military and Civilian:** Our team is adept at handling the specific needs of military airbases, joint civilian-military airports and civilian airports.
- > **Heliports:** We offer comprehensive design services for heliports to various purposes, from private use to hospital rescue heliports.

This diverse portfolio showcases the exceptional breadth and depth of our team's knowledge.



RUNWAY

Runway design is to airport design is like motorway design is to road design. It may not be the most complex or complicated task, but it still requires the highest level of expertise, as this is the area of the entire airport where aircraft are most at risk during their ground movements or during take-off and landing.

It is a long way to the finished runway design. Our experts are highly experienced in everything from determining the alignments and dimensions, to designing the obstacle limitation surfaces, to designing the runway pavement in terms of elevation, site layout and pavement structure, including markings and runway drainage.

Of course, in addition to civil engineering tasks, our colleagues are also skilled in airport design tasks such as the design of navigation and airfield ground lighting, and the design of other facilities associated with the operation of the runway.

Over the past few years, the Airport Design Office team has designed, among other things: the replacement of the pavement of runway 13R/31L at Budapest Liszt Ferenc International Airport, the renovation of the runway of the Hungarian Defence Forces Airbase 101 of Kecskemét and the parallel emergency landing runway, and the runway extension of the MH 47th Base Airfield in Pápa by 600 m.

TAXIWAY

We could say that the airport taxiway network is the airport vascular network. If the network is not well designed, it can cause traffic disruptions and congestion that can result in significant additional costs for airlines and airport operators.



Our colleagues have extensive experience in the design and planning of taxiway networks for both civil and military airports. Among others, Budapest Liszt Ferenc International Airport, the Hungarian Defence Forces 101st Air Base in Kecskemét and the MH 47th Base Airfield in Pápa are the work of our colleagues.

APRON

As a passenger, perhaps one of the most unpleasant experiences is when your flight is delayed. One important element in avoiding delays, after the airspace, runway and taxiway network, is the apron. It could be said that one of the most complex tasks from a design point of view is to design a well-functioning apron. This is because an important element of the apron is the allocation of stands according to the types of aircraft present at the airport, the design of the appropriate apron taxiway network, the design of the connection to the terminal building (e.g. boarding bridges), the design of the service road network for ground handling equipment and the coordination of the work of the different design disciplines.



VARIOUS APRONS FOR CIVIL AND MILITARY USE

- > Disarm pad
- > Compass checking area
- > De-icing area
- > Holding bay

In the aforementioned civil and military airfield apron design projects, our colleagues gained outstanding experience in the field of apron design. Among the apron design projects, the design of the engine test site at the 101st Air Base of the Hungarian Defence Forces in Kecskemét was a particularly interesting task, which meant that our colleagues were in charge of the design of the apron and the structural engineering of the test building.

HELIPORTS



RESCUE HELICOPTER LANDING SITES

Helicopter rescue not only means very fast access to the patient or casualty and transport to hospital, it also provides the highest level of medical care. Rescue helicopters are staffed by the most highly trained doctors and are equipped with the facilities of a hospital.

That's why our colleagues are particularly keen to design heliports, whether they are hospitals or heliports bases. Over the past decades, our colleagues have gained unique national experience in the design of heliports, having been involved in more than 20 successful projects. Like the Airport Design Office, the whole TSPC group attaches great importance to this planning area. Over the past year we have been working on:

- > the Ajka Hospital
- > the North-Pest Central Honvéd Hospital
- > the Albert Schweitzer Hospital and Clinic in Hatvan

but we are also preparing the design work for more hospitals and air rescue bases.

The design tasks basically include the physical design of the landing site (paving, drainage, signage), the design of obstacle limitation surfaces, lighting and obstacle signage, whether on the ground or elevated. But for elevated heliports, our colleagues also work closely with architects and related disciplines.

Of course, in addition to rescue helicopter flights, we also serve the needs of private or military helicopter flights.



AVIATION PROFESSIONAL MANAGEMENT OF THE DESIGN OF AIRPORT FACILITIES

Our colleague, through his chamber qualification and his experience in airport operations, has been involved as a project manager in such high-rise construction projects as the development of the T2 terminal (Sky Court) at Budapest Liszt Ferenc International Airport, or the world unique Pápa SAC Hangar Complex, which combines four functions at the MH 47th Base Airfield in Pápa.

In addition, our colleagues provided professional assistance in high-rise construction projects such as:

- > Control Tower
- > Fuel Base
- > Firefighting base
- > Cargo terminal



Engine testing area



Pápa SAC Hangar Complex



Control tower

OUR COLLEAGUES HAVE GAINED THEIR PROFESSIONAL EXPERIENCE IN THE DESIGN OF AIRPORTS SUCH AS

CIVIL AIRPORTS

- > Budapest Ferenc Liszt International Airport (*main international gateway*)
- > Hévíz-Balaton International Airport (*Sármellék*)

MILITARY AIRFIELDS

- > 101st Airborne Brigade of the Hungarian Defence Forces (*Kecskemét*)
- > 47th Hungarian Defence Forces Base Airfield (*Pápa*)
- > Hungarian Defence Forces Kiss József 86th Helicopter Brigade (*Szolnok*)

JOINT CIVIL AND MILITARY AIRFIELD

- > Taszár Airport (*currently not in operation*)

HOSPITAL AND PRIVATE HELIPORTS



IN OUR PROFESSIONAL WORK WE TAKE INTO ACCOUNT

NATIONAL AND INTERNATIONAL COMPLIANCE

ICAO standards, in particular the chapters of ICAO Annex 14. Volume I and Volume II.

Commission Regulation (EU) No 139/2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council

ENVIRONMENTAL RESPONSIBILITY

We prioritize environmental sustainability by following established standards for noise management, plant and animal protection, waste management, and soil remediation. Additionally, we stay up-to-date on all other relevant regulations.



FURTHER COMPETENCE

With the TSPC Group in-house offices and external partners, we undertake not only airport design tasks, but also other tasks related to the establishment, development and operation of airports, including:

- > complete design of building complexes covering all disciplines
- > railway connection design
- > airport operations screening, evaluation, competitive analysis
- > analysis of airport operations and aircraft ground handling processes, definition of organisational requirements
- > other expert advice related to airport operations
- > preparation of complete feasibility studies
- > strategic planning
- > business plan for green and/or brownfield airport investments
- > economic calculation: investment cost estimation, operational cost analysis, return on investment calculation, cost-benefit analysis
- > aviation market research
- > SWOT analysis of concepts
- > International and national regulatory compliance assessment
- > EASA safety and compliance oversight management
- > development of operational manuals, procedures
- > conducting and supporting the administration of aviation authorities
- > socialisation tasks (*public relations, marketing*)
- > noise testing, environmental licensing





ÁKOS
SZOVA

*Director of
Infrastructure Design*



COLLEAGUES



ZSOLT
VÁLAY

*Vice Director of Infrastructure
design, Head of Airport design
Department*



EXPERIENCE

He graduated as a civil engineer from the Ybl Miklós Faculty of Architecture and Civil Engineering in 2012, and further expanded his economic knowledge at postgraduate level in engineering and economics at the Budapest University of Economics. After graduating as a civil engineer, he started working as a structural engineer in the field of utility engineering. In 2019, he joined the TSPC team. His responsibilities include road, utility, geodesy and other infrastructure engineering tasks as well as team management and coordination. What he loves most about his job is the coordination of design projects, from the drawing of the first line to the delivery of the final plans. His aim is to build a competitive and highly professional team of leaders in the infrastructure planning sector.

EXPERIENCE

He obtained his diploma in 1997 from the Faculty of Transportation Engineering at the Budapest University of Technology and Economics. After successfully completing the state examination, he worked for 4 years as a route planner at the Air Traffic and Airport Directorate. From January 2002, for 21 years, he worked at Uvaterv Ltd. as an airport planner, later as deputy office manager, and finally as office manager. He joined the TSPC team in September 2023 as the Deputy Director of Infrastructure at the TSPC Engineering Office, and as the head of the airport planning office. Airport planning is not just a job for him; it's a lifelong vocation and hobby. This is why he considers it a priority within TSPC to build up the field of airport planning and realize as many successful airport projects as possible.



TSPC
GROUP

ABOUT TSPC GROUP

DELIVERING SOLUTIONS

TSPC Group provides full-service packages to its clients, accompanying them along their projects, from the first idea to implementation. TSPC is committed to sustainability, green philosophy, and innovation: We provide our solutions using the currently available highest level of expertise and technology, shaping the architecture of the future.

EXPERTISE & EXPERIENCE

TSPC has organised the experts of architectural and engineering projects in a single group of companies, to provide the complex expertise and efficient work organisation required for the management of the complete project process to its clients. We provide advanced training possibilities and state-of-the-art technological background to our employees.

12

YEARS

110+

COMPLETED
PROJECTS

225+

EMPLOYEES

1,5

MILLION
SQUARE METERS
DESIGNED

7

OFFICES

TSPC GROUP'S SERVICES



ARCHITECTURAL DESIGN

General design
Architectural design
Interior design
Landscape design
Urban design, city planning
BOQ (Bill of Quantities)
Feasibility studies
Detailed construction drawings
Construction supervision



ENGINEERING DESIGN

Structural design
MEP design (Electric engineering, HVAC design, Building services engineering)
Fire safety design
Road and public utility design
Technical consultancy
Geodesy



CLIMATE ENVIRONMENT ENGINEERING DESIGN

Energy efficiency & optimization
Building comfort & well being
Building Climate Modelling Simulations
Environmental consultancy
WELL, LEED, BREEAM, DGNB consultancy



BIM

ArchiCAD, Revit, Solibri, Nemetschek and Tekla support in BIM
BIM consultancy
BIM management
BIM modelling and 2D file preparation
Sharepoint, Plan-doc
Point cloud processing
On-site BIM Solutions



REAL ESTATE & CONSULTANCY

Feasibility studies
Turnkey developments
Operation planning
Development site identification
Facility Management
Due diligence



PROJECT MANAGEMENT

Public procurement consultancy
Scheduling
Budgeting design & control
Expert Services & Consultancy
Designer supervision
Technical supervision
Organizational plans



SURVEILLANCE & DIAGNOSTICS

Building survey
Geodesy
Point cloud survey
3D laser scanning
Energy analysis of existing buildings
Building energetics
Structural diagnostics

OFFICES

HUNGARY > Budapest, Győr, Debrecen
GERMANY > Munich
SLOVAKIA > Komárno
CROATIA > Zagreb
HONG KONG

TSPC Group
HONG KONG

TSPC Group
H-9022 Győr,
Dunakapu tér 7.
info@tspc.hu
+36 96 200 651
+36 1 800 9192

TSPC Slovakia s.r.o.
Dunajské nábrežie
4726, 945 01
Komárno
info@tspc.hu

TSPC GmbH
Leopoldstraße 256.,
80807, Munich
info@tspcgroup.de

TSPC d.o.o.
Črnomerec 63,
HR-10120 Zagreb

TSPC Group
4025 Debrecen,
Barna utca 23.
info@tspc.hu

TSPC Group
H-1053 Budapest,
Magyar u. 36.
info@tspc.hu
+36 1 800 9191
+36 1 800 9192



TSPC Group
Technical Supervision and Planning Consulting Hungary Kft.

www.tspcgroup.com