Hungarian expertise: The potential of tradition & innovation

WORLD CLASS PRODUCTS & KNOW-HOW FROM CENTRAL EUROPE

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Dear Partner,

Hungary is a country of ten million, established among the first European States more than a thousand years ago in the heart of the European continent.

Our rich, albeit turbulent history has taught us over the centuries how to best exploit our unique geographic and cultural qualities, and to always strive to achieve the seemingly impossible: this heritage, coupled with a skillful and entrepreneurial spirit, as well as a deep inclination for innovation has been the foundation of our subsistence, whilst it has also produced a wide scale of cutting edge products, expertise and technological solutions in a number of fields ranging from agriculture to industry.

This booklet provides a brief overview of some of the very best of this offer that we hereby bring to your kind attention.

The Hungarian National Trading House, representing the leading companies operating in the presented sectors on behalf of the Hungarian Government, is at disposal should you have interest in any aspect of the following contact.

LEVENTE MAGYAR
Minister of State for Economic Diplomacy
Government of Hungary

Agriculture

agricultural economy in Hungary

I.

Characteristics of the agricultural economy of HUNGARY

HUNGARY'S AGRICULTURE

EXCELLENT GEOGRAPHICAL CONDITIONS

PROPER CLIMATE

STATE OF THE ART TECHNOLOGIES

Hungary's agriculture is among the world's best

The Hungarian agriculture – due to its geographical and climate conditions, more than one thousand years of history and the high-quality of technologies applied – consolidates its position among the world's best.

AGRICULTURE IN HUNGARY

5 300 000 hectares agricultural area

52 355 km water courses

The economic and social conditions of the country are substantially determined by these characteristics, which are outstanding even on the global scale. The agricultural area covers 5,300,000 hectares, nearly two thirds of the country's total territory. Whilst this represents one of the highest ratios in a worldwide comparison, we are the leaders in terms of soil fertility as well:

THE COUNTRY'S FERTILE SOIL IS ONE OF THE BEST IN THE WORLD, WHICH IS REFLECTED BOTH IN YIELDS AND IN QUALITY OF THE PRODUCED GOODS.

One of the key prerequisites of this is the rich water supply of Hungary:

WE POSSESS ONE OF THE LARGEST UNDERGROUND FRESH WATER RESERVES OF EUROPE

while the density and yield of the rivers and streams ensures our first place among other countries of the continent—the combined length of all water courses reaches 52,355 kilometres. The country's excellent agro-ecological characteristics allow the establishment of diverse production structures. The cultivation of crops, horticulture, meadow and pasture management, and animal husbandry provide great potential, which was strengthened even further with the accession of the country to the European Union in 2004.

STRICTLY CONTROLLED CERTIFICATION SYSTEM IS APPLIED IN ALL AREAS OF AGRICULTURE INDUSTRY IN HUNGARY.

It is prohibited to grow and use genetically modified crops, which ensure the totally GMO-free status of the agricultural and processed products, and this direction is stipulated in the Constitution of Hungary as well.

CROP PRODUCTION AND ANIMAL FARMING

Crop production in Hungary is very diverse: cereal grains (wheat, rye, barley, oats, maize) are in the leading positions with average production yields higher than the European mid-range—even without irrigation. The amount of excellent quality wheat traditionally produced in Hungary exceeded 4.5 million tons in the past years.

Higher average production yields than European mid-range

4.5 million tons excellent quality wheat

the highest technical standards and plant breeding technologies

Crop production safety is supported by the highest technical standards and plant breeding technologies, while quality is ensured by controlled seeds and plant protection authorities.

Animal farming accounts for approximately 40% of all agricultural activities of Hungary. Marketleading breeds are being used in livestock breeding for slaughter and milk production, while slaughterhouses apply the livestock classification system introduced by the European Union.

MOST OF THE PROCESSING PLANTS ARE SUITABLE FOR EXPORT TRADING, AND HOLD SPECIAL PERMITS AS WELL.

Dairy products and dairy production technologies are of world class standard, which is reflected by the fact that a number of Western European companies have their products produced in Hungary. Animal health status of the country is also outstanding, which is proven by the fact that the Hungarian stock could remain healthy during a number of European and world-wide epidemics. High standard food production and processing, a more and more advanced agricultural machinery production industry, followed by internationally renowned plant breeding and veterinary science and—more recently—the activity of biotechnological research and development sector have been built progressively on the traditionally advanced agricultural industry of the country.

EXCELLENT QUALITIES IN TERMS OF LOGISTICS

In addition to the excellent food production potential, the Hungarian national economy —based on the balanced agricultural production sector—can also boast the knowledge accumulated by generations of farmers. Hungary has excellent capabilites in terms of logistics as well: it is the Eastern gate of the European Union, the entrance to the Balkan, a corridor to Russia, the Middle East and the Far East, all at the same time . As a result of the geographical situation of the country, movement of commodities related to exports is possible on road, railway, and by air or waterway.

the Eastern gate of the European Union

the entrance to the Balkan

a corridor to Russia the Middle East and the Far East

UNTAPPED POTENTIAL

Despite all of these conditions, the Hungarian agricultural sector has a huge unexploited potential. This potential is currently not reflected in the figures. The steeply increasing export volume can further be enhanced by conquering new quality buyer markets, thus ensuring high standard and permanent demand for products with high added value. There is a huge hidden potential in the development of the Hungarian food processing industry as well:for instance, only one sugar mill is operating nowadays in Hungary—a former sugar empire— due to the lack of development projects (26 years ago their number was 18). Nevertheless all market and professional conditions are present to restore the former capacities.
In general, the Hungarian agriculture might have the world's best constellation of natural, economical, institutional and legal conditions necessary for high quality food production. Its performance can be doubled in the coming years, provided the necessary market organization and development actions are duly taken.

ANYBODY INVESTING IN THE HUNGARIAN AGRICULTURAL STRUCTURE—WHETHER IT'S THE PURCHASE OF EXISTING PRODUCTS OR SERVICES, OR A BUSINESS INVESTMENT IN THE SYSTEM—WILL DEFINITELY NOT FAIL IN A WORLD WHERE DAY-TO-DAY EVIDENCE SUGGESTS THAT THE KEY COMMODITY IN THE UPCOMING ERA WILL BE FOOD WITH LAND AND WATER AS BASIS.

The population of Hungary ranges up to 9.8 million, but the country's agriculture is capable of providing continuous, highest standard food supply to approximately 30 million people.

THE ROLE OF THE HUNGARIAN NATIONAL TRADING HOUSE

PREMIUM QUALITY HUNGARIAN PRODUCTS AND SERVICES ON ALL OF THE FOREIGN MARKETS

The main goal of the Hungarian National Trading House is to make premium quality Hungarian products and services available to partners in all the foreign markets of the world. There is a huge potential in the sale of excellent quality Hungarian agricultural products in these markets. The geographical, climatic and environmental characteristics of this country, its age-old agricultural traditions and the more and more intensive research, development and innovation activities, and also the technological development provide an excellent basis for increasing the weight and volume of trade oriented to the international agricultural markets. The Hungarian State places a great emphasis on creating and developing those infrastructural and institutional frameworks, by which the export potential of the Hungarian agricultural sector can be enhanced. Through its actions the Hungarian National Trading House intends to actively participate in the expansion of Hungarian export activities as an integrator.

From the producer to the importer: a comprehensive supply chain

AN IMPORTANT OBJECTIVE IS TO ORGANIZE FORWARDING OF HIGH QUALITY AGRICULTURAL COMMODITIES PRODUCED BY HUNGARIAN SMALL FARMERS TO EXTERNAL MARKETS.

In order to achieve this goal, the Hungarian National Trading House will set up a comprehensive export supporting supply chain, which will collect Hungarian agricultural commodities produced by small farmers for sale, deliver them to the—yet to be established—regional distribution centres for classification and quality assurance, and forward them directly to importers with the involvement of international freight companies.

Easy and simple sales

Thus producers may easily and simply sell their products through a single-contact-system, which relieves them of a number of potential costs, significant amount of work and risk associated with export activities. The single-contact-system is beneficial for the buyer as well, since the selling procedure will be simplified by the involvement of a dedicated contact person.

Safe trade

Governmental background and warranty reduce market risks for both exporters and importers.

High quality guarantee

Food safety is controlled by a number of governmental and professional (trade) organizations and bodies based on international standards of requirement (HACCP). Continuous and rigorous control of the products bought-in, and classification of the commodities ensure that buyers on the external market will continuously get the same quality, high standard, safe and healthy products and food items. In order to do so all products sold through the supply chain will get their own trademark, which is also a guarantee for quality.

CONTINUOUS AND RIGOROUS CONTROL OF THE PRODUCTS »SAME QUALITY, HIGH STANDARD, SAFE AND HEALTHY PRODUCTS

Local representation

The extensive trading-house-network of the Hungarian National Trading House on the external markets allows quicker flow of information, thus export operations best suited to the special economic and social needs of the target country can be established. The network is continuously being expanded with agencies in the West Balkan, Asia, Middle East, Africa, Latin and North America, and also within the territory of the Commonwealth of the Independent States.

III.

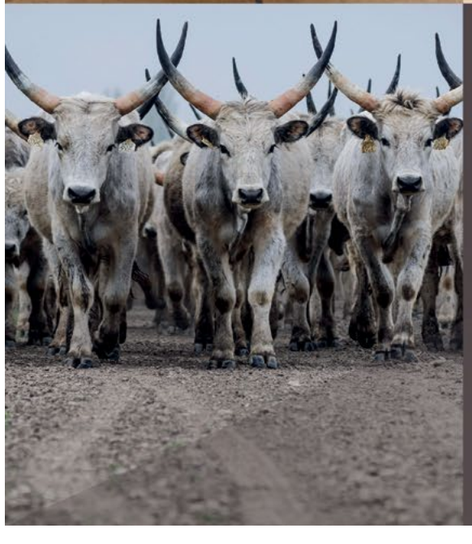
PRODUCT CATALOGUE

Honey

ACACIA
FLOWER
LINDEN
MIXED
SUNFLOWER TECHNOLOGY

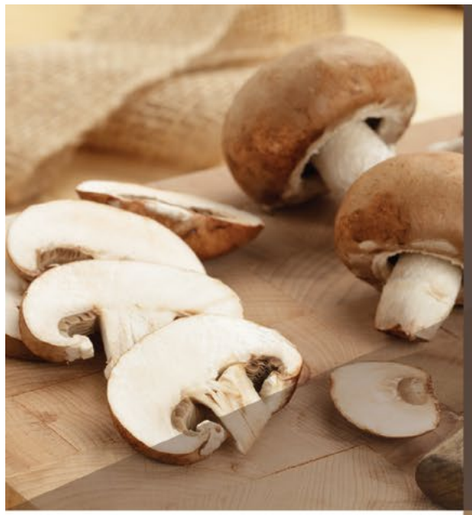
Dairy products

UHT MILK	0,1%; 1,5%; 2,8%; 3,5%
BIO MILK	Goat's milk; bio cow's milk
CHEESE	Trappist cheese; Gouda; Emmenthal; Camembert; rasped cheese; cheese in bulk natural;
JOGHURT	fruit; bio
TOFU	



Meat products

GREY BEEF CATTLE	live animal, halved; carved
FRESH AND FROZEN RAW TURKEY MEATS	whole turkey; turkey breast; turkey leg; fresh and frosted turkey
WHOLE CHICKEN AND CHICKEN PARTS	chicken breast; chicken leg; whole, carved chicken; live animal; fresh and frosted
LAMB, SHEEP, VEAL AND GOAT MEAT	whole, halved, carved, live animal
DIFFERENT KINDS OF SAUSAGES	veal, poultry, deer, grey beef



Fresh and dried fruits and vegetables

FRESH FRUITS AND VEGETABLES	apple; apricot; plum; sour cherry; cherry
GERM	onion germ, radish germ, wheatgerm, brocoli
DEHYDRATED VEGETABLES, DRIED FRUITS	plum; sour cherry; apricot; black cherry; grape-raisin
MUSHROOM	oyster mushroom, champignon, marasmius, dried
FRESH VEGETABLES	onion; pepper; tomato; cucumber; green salad; cabbage; cauliflower

Confectionery products and snacks

BIO BALLS - ORGANIC SNACKS SPECIAL EXTRUDED CORN, RICE	millet, corn
DIFFERENT KINDS OF BISCUIT, BONBON SPECIALITY	different kinds of buscuits: salty, sweet, oat biscuit
ORGANIC BREAD, ORGANIC MILLING INDUSTRIAL PRODUCTS	organic bread, organic milling industrial products
INSTANT DRINKS, HOT CHOCOLATE, INSTANT COFFEE, ICE-CREAM POWDER	
MARZIPAN, PRALINES, TEA-BISCUITS	

Flours and pastas

DIFFERENT TYPES OF WHEAT, RYE, CORN FLOUR, DURUM FLOUR	
GLUTEN-FREE PRODUCTS	
DRY PASTAS, DURUM PASTAS	(2-4-8 eggs or without eggs); organic milling whole spelt pasta
EXTRUDED PRODUCTS	crackerbreads, sandwich, snack
ORGANIC MILLING WHOLE SPELT PASTA	

Spices and oils

VACUUM DRIED SWEET OR HOT PAPRIKA POWDER FROM KALOCSA	
VACUUM DRIED SPICE POWDERS	thyme grass, horseradish, garlic , onions, basil
OILS	sunflower, olive, lin, pumpkin, lavender
SUGAR	(birch sugar, isosugar, beet sugar) natural and traditional sweeteners
EROS PISTA	red-hot-paprika cream of Hungary

Canned food

CANNED FRUITS AND VEGETABLES	baby carrots, baby corn, crumbled corn, bean, tomato
READY MADE MEALS	szekely cabbage; bean stew; pottage; chili bean; vegetables
JAMS, JELLIES, SPREADS	strawberry; cherry; apricot; plum
DUCK AND GOOSE LIVER CANNED FOODS	pate, liver cream
DRESSING AND COOKING SAUCES	ketchup , mustard , mayonnaise

Herbs, tea, food supplements

HERBAL TEA AND FRUIT TEA	chamomile, forest fruits, lemon grass,mint, nettle
HERBAL EXTRACTS	vegetable oils, vegetable extracts
MEDICAL PLANT	lavender, lemon grass, mint, sage, lanceolar rip grass
HERBAL MEDICINES AND NATURAL REMEDIES	
VITAMINES AND DIETARY SUPPLEMENTS	

Soft drinks

NATURAL MINERAL WATER	still, sparkling, light, enriched with oxygene, baby-water
VEGETABLE AND FRUIT JUICES	tomato juice, apple juice, mixed vegetable - fruit juice, orange juice, multivitamine
ENERGY DRINK	with sugar, without sugar, with stevia
CARBONATED SOFT DRINKS	sparkling apple, sparkling cherry, sparkling orange
FRUIT SYRUPS	apple, sour cherry, orange, elderflower, redcurrant

Frozen foods

IQF VEGETABLES AND FRUITS	sour cherry, raspberry, peas, corn, carrots, string-bean, pumpkin, mixed vegetable mix
FROZEN RAW AND HALF-READY MADE MEAT	duck, goose, turkey, rabbit
FROZEN WILD GAME MEAT	roe, deer, rabbit, pheasant
FROZEN DUMPLINGS AND NOODLES	stuffed with plum, stuffed with apricot, stuffed with jam, stuffed with cocoa, stuffed with vegetables
FROZEN DESSERTS	ice cream cake, frosted cake, popsicle, marron purée

Seeds

SUNFLOWER SEED	hulled unsalted, hulled salted, unhulled - crusty
LINSEED	
POPPY SEED	
PUMPKIN SEED	shaved, unshaved
WALNUT-BASED PRODUCTS	walnut kernel, minced walnut

Preserved fruits and vegetables

SOUR CHERRY	with stone, stoned
PEACH	halved, carved
CUCUMBER	leaven cucumber, pickles, sliced cucumber
MIXED PICKLES	cabbage-onion-carrot, cabbage-pepper
LETCHO	

Healthcare

professional competencies:

- clinical research and quality assurance, certificate of registration, introduction of standardised procedures
- products related to certain active pharmaceutical ingredients, pharmaceutical products, vaccines
- medical device and appliance technologies
- application of recreational and health protection systems
- IT systems for patient registration, enterprise resource planning, network infrastructure, systems for blood establishments, epidemiological and pharmaceutical drug database systems, national databases, remote diagnostics, telemedicine, healthcare platforms and knowledge base management, mobile applications
- training and management systems, providing institutional services

Medical devices and appliances

OUR MANUFACTURING COMPANIES BOAST WITH LONG TRADITIONS AND OFFER EXCELLENT ENGINEERING EXPERTISE, PROVIDING PRODUCTS SUBJECT TO CONTINUOUS IMPROVEMENT.

In addition to direct product sale and marketing, the production technology is available and joint development projects are possible as well.

Medical devices:

- X-ray, CT, microscope
- arteriograph, ECG devices, Holter monitors
- patient monitors in intensive care, defibrillators
- incubators and warming tables in infant care
- dental machines
- innovative equipment for hospitals

Medical appliances:

- hand-held medical devices
- wide range of prostheses and implants
- meshing devices for skin grafting
- simple diagnostic devices for consumers

Our projects:

- An innovative device for monitoring hand hygiene created as a result of a unique development project. It is applicable in many cases from medical training to preoperative procedures and formative school education.
- Innovative new designs of mobile, 24-hour ECG monitors, telemedical ECG-systems, Holter monitors and ambulatory blood pressure monitors
- Incubators, warming tables specialised for medical care of premature infants from a manufacturer with several decades of history and international reputation.
- ECG monitors, Holter monitors and 24-hour blood pressure monitors specialised for the diagnosis of cardiovascular conditions.
- Manufacturing of dental equipment and machinery. Dental milling machines, casting machines and polymerization units.

- An innovative instrument designed—as a result of several years of research—for the diagnosis of atherosclerosis, combined with a public health screening programme.
- Specially designed meshing devices for skin grafting for burn units and plastic surgery departments.
- Hand-held medical instruments made of German steel of excellent quality (forceps, scissors, scalpels, etc.).
- A wide selection of implants, prostheses of top quality, from manufacturers with international recognition and several decades of history.
- Ovulation tester.

Biotechnology

Biotechnology companies and laboratories with research and development operations in Hungary have internationally recognised achievements, and provide cooperation and investment opportunities in the following areas:

- **RESEARCH AND DEVELOPMENT OF PHARMACEUTICAL PRODUCTS**
- **CANCER RESEARCH**
- **NANOTECHNOLOGY**
- **HUMAN MEDICINE**
- **BIOTECHNOLOGY SERVICES, MARKER PRODUCTS**
- **NEXT-GENERATION SEQUENCING**
- **BIOINFORMATICS**
- **HUMAN DIAGNOSTICS**

PHARMACEUTICAL PRODUCTION

Internationally renowned
Hungarian pharmaceutical production is present in the world market by using state-of-the-art technologies and products meeting the highest quality standards and monitoring requirements, including the following:

- generic medicinal products
- priority strategic products
- specific developments
- manufacturing services to original manufacturers for any pharmaceutical formulations
- OTC products, vitamins
- individually developed vitamins,

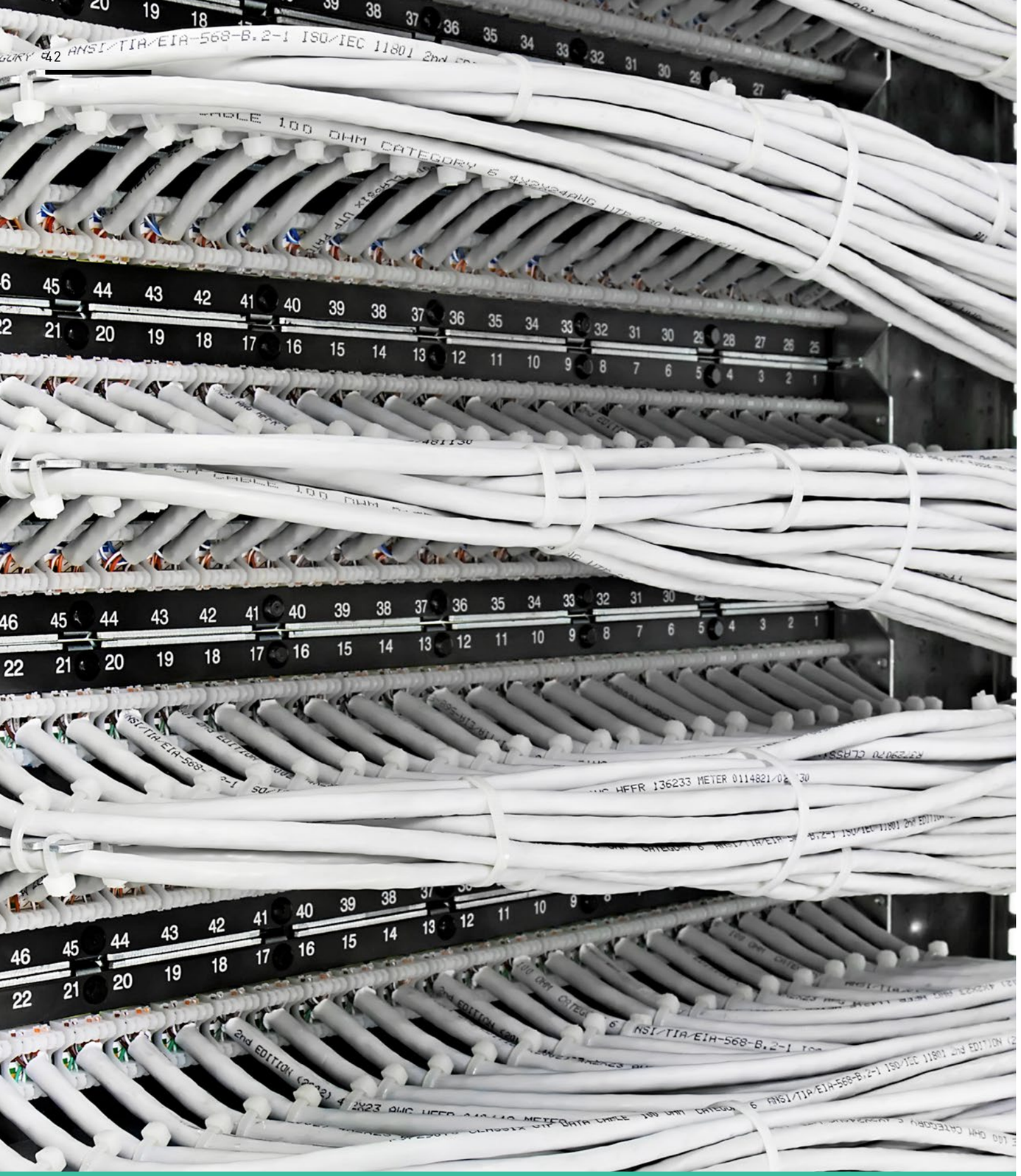
food supplements, production of private label products and manufacturing services for other brands in manufacturing plants with state-of-the-art technological background.

OUR MEDICAL-COSMETIC PRODUCTS, PHARMACEUTICAL PREPARATIONS AND DIETARY SUPPLEMENTS

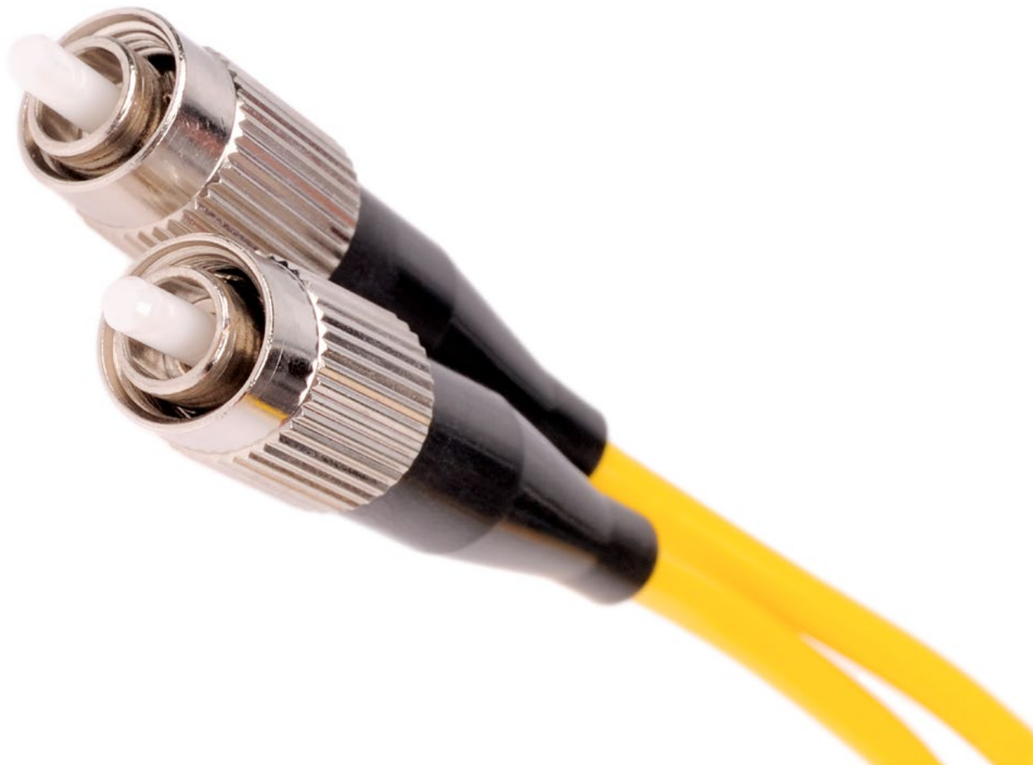
- products for general health improvement, primarily teas and creams
- herbal teas, herbal medicines
- therapeutic ointments with herbal content
- baby care products and products for expecting mothers
- pharmaceutical products for dermatological conditions
- manufacturing of private label products

OUR WELLNESS AND THERAPEUTIC DEVICES

- CO2-therapy device, which can be used in health care institutions, wellness hotels, or fitness rooms
- devices providing individual water rehabilitation, development and conditioning for patients
- devices using the beneficial effects of salt



ICT sector



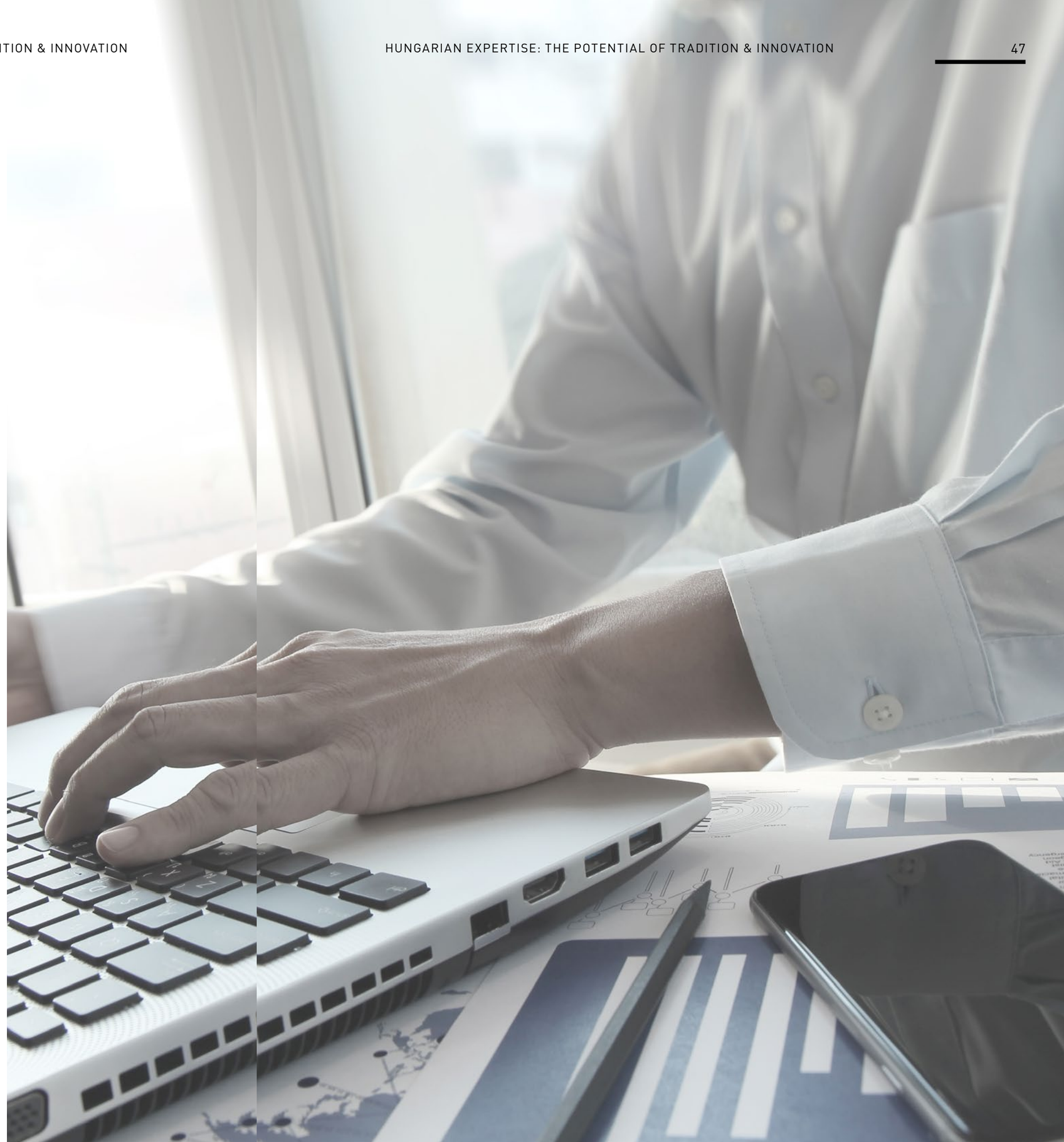
ICT *sector*

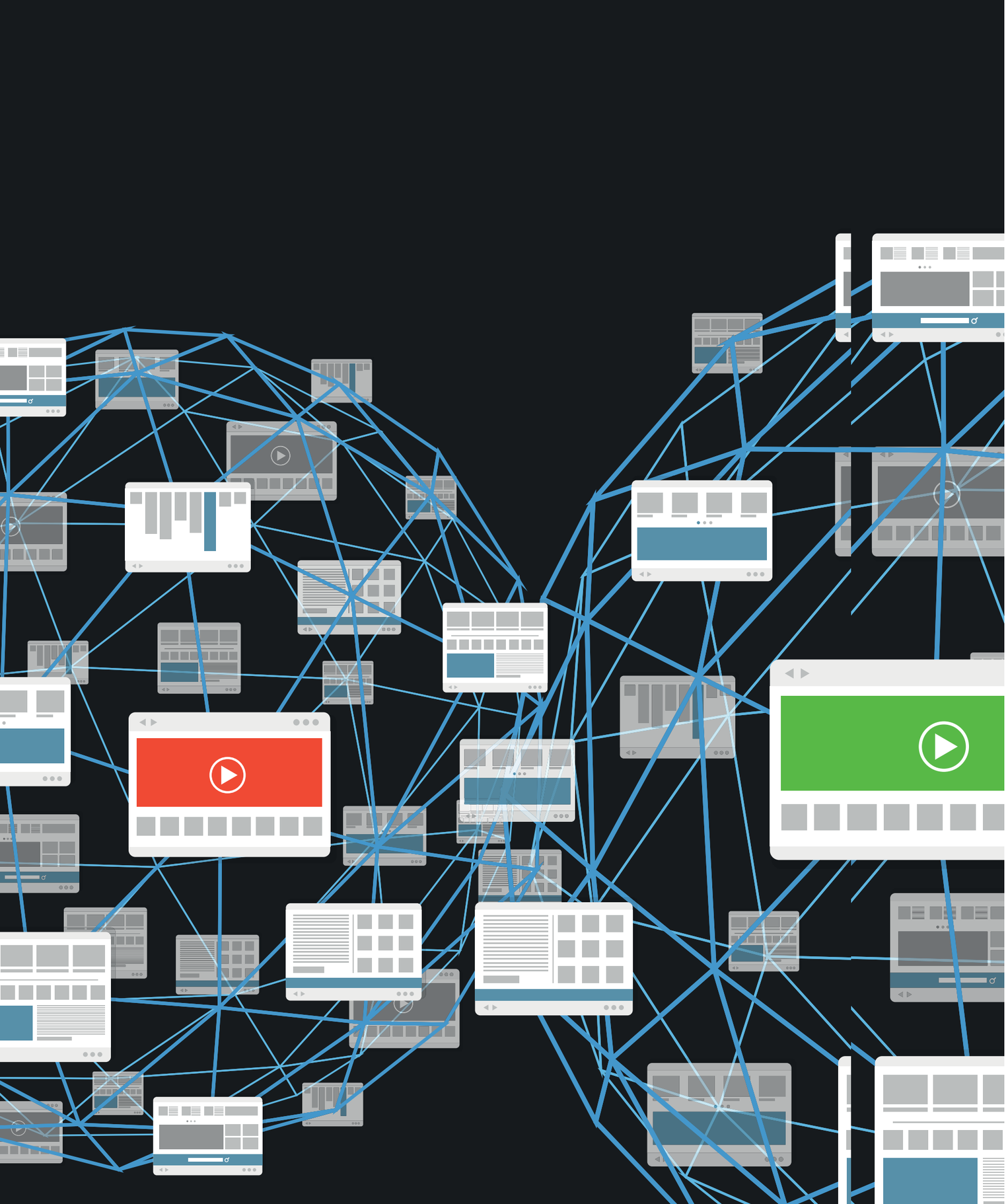
The innovative capacities of the Hungarian ICT sector are shown primarily by the large number of innovative companies have emerged in recent years. Many of them are already present on the global market, and are recognised in the whole world within their respective specialist field. The excellence of the ICT export, which is amongst the most significant components in the Hungarian infocommunication industry, is proven by companies like prezi.com, NNG or LogMeIn. The order of magnitude of the Hungarian export of software and ICT services ranged up to one billion Euros in 2014. This can almost entirely be regarded as added value and intellectual achievement. The technologies introduced below are competitive on the international market due to their efficient, forward looking and innovative solutions.

innovative Hungarian solutions

Hungary based ICT companies are characterised by quick development and above the average added value.
We manage the complete system level export of the solutions in the following subsectors:

- APPLICATION DEVELOPMENT,
- CLOUD BASED TECHNOLOGIES,
- HARDWARE MANUFACTURING,
- IT SECURITY,
- IT CONSULTANCY,
- M2M COMMUNICATION,
- GAME DEVELOPMENT,
- TELECOMMUNICATION AND INFRASTRUCTURE,
- DATA MANAGEMENT AND ANALYSIS





DOCUMENT MANAGEMENT

Professional document management systems are able to reduce the time required for administration by a minimum of 30%. Several Hungarian software applications exist, which allow automated case management. Electronic document management systems do not only reduce the number of incoming and outgoing letters, but establish the so called management logic in the whole organisation.

CONTENT MANAGEMENT

Businesses need customized, efficient communication infrastructure that satisfies all requirements of online communication. The content management system is a complex application, in which content publication is executed according to a pre-planned workflow. The application allows content publishing, editing and modifying. This application can be used both in corporate and banking environments.

ENERGY MANAGEMENT

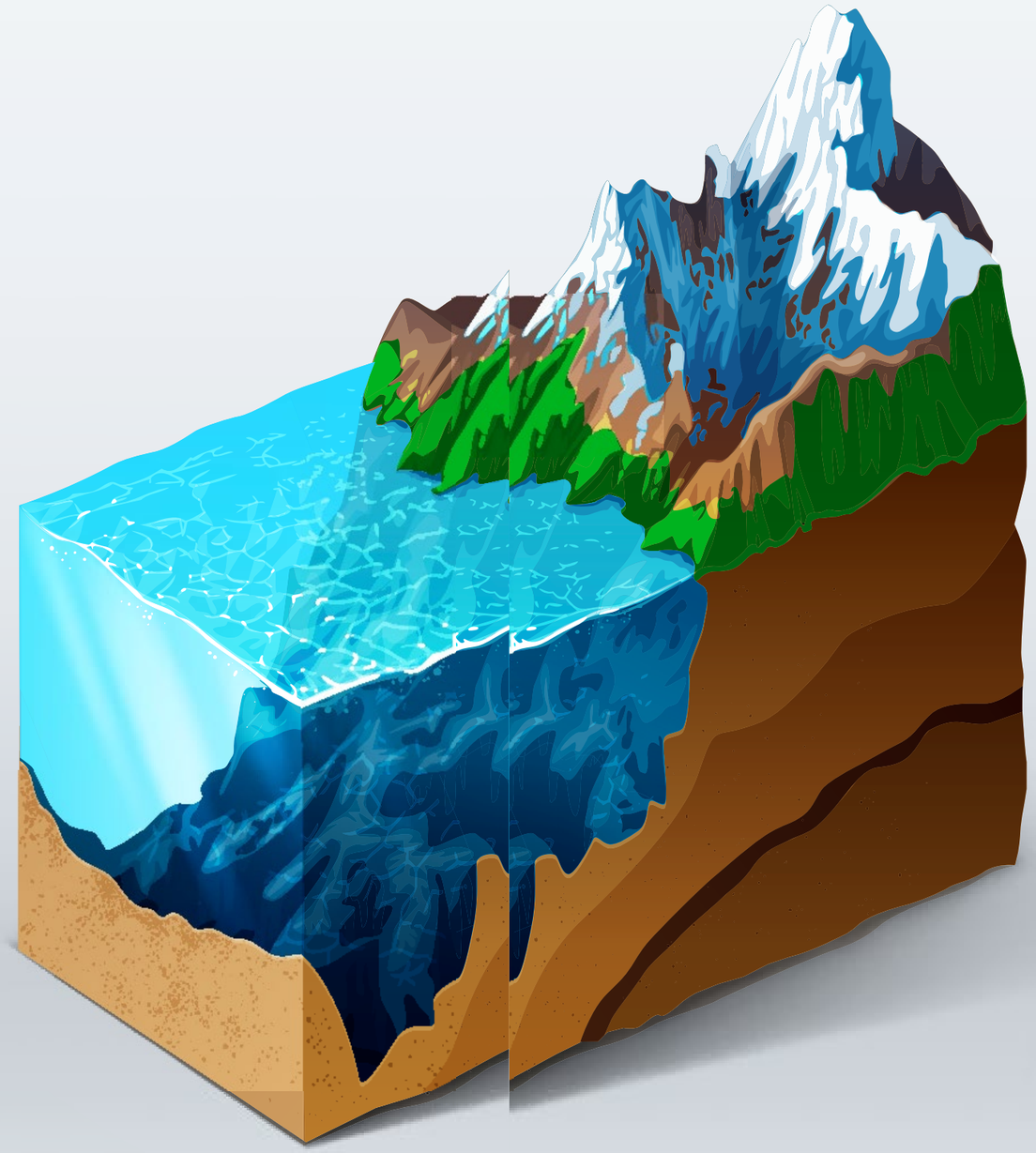
The environmental protection regulations, the growing energy costs and the increasing demand for efficient operation of various facilities require the reduction of the energy consumption, the related emissions and the energy costs of the institutes. A number of ICT companies offer complex services in the field of energy optimization in Hungary. There is an energy management solution developed domestically, which is able to identify the potentials of energy saving in various areas, to measure energy saving rates online, and to provide control over energy, gas and water consumption of high voltage systems, and monitor them at the same time.

GEOGRAPHIC INFORMATION SYSTEMS

Geographic Information System (GIS) solutions allow storage, analysis and display of the various pieces of local information, while they provide a better decision making process in the background. The web based Urban Management System named TeIR (National Development and Urban Studies Management Information System) provides access for users to data collected by the Hungarian Government. The system is able to present the characteristics and environment of the population in the country, and allows an insight into the regional changes. The system can be used for educational purposes as well.

IT SECURITY

The services offered by Hungarian IT security technologies cover the specialist fields of risk management, safe payment transactions, electronic signatures and certificates.



ELECTRONIC SIGNATURE

Electronic signatures are digital data warranting the authenticity of an electronic message attached thereto, identifying the signatory. E-signature software allows online execution of documents and hence, safe electronic payments.
The technology can be used in the following fields of banking information technology:

-CREDIT RISK MANAGEMENT,
-CASH MANAGEMENT AND OPTIMIZATION,
-EXPORT FINANCING,
-DATA PROTECTION.

CERTIFICATION

It is rightly expected to provide proof of certainty upon the signing of documents associated with a number of business, financial, legal and other regulated transactions. Therefore it is indispensable for the receiving party to verify the authenticity of the document, confirming the identity of the signatory thereof, and the integrity of the electronic data. Such certificates make it possible to create electronic signatures, thus private deeds will have full conclusive force.

ELECTRONIC TOLL SYSTEM

The Hungarian Government envisaged the establishment
of a distance-based electronic toll system by 2013. The technology developed for this purpose is easy and quick to install, is extremely safe, flexible, reliable, independent from suppliers, and can simply be adapted to local conditions. The system has an open platform, so it is easy to attach it to other systems.

COMMUNITY PARKING SYSTEMS

The high penetration of intelligent mobile technology and electronic payment solutions opened up new perspectives for mobile payment. A national, country-wide mobile payment system is operated in Hungary, which functions as an integrator between the operators of the parking lots and mobile service provider resellers. Using the technology, parking fees can be paid through mobile phones. Additional benefits of the system include minute-based reckoning and user-friendly platform design.

CUSTOMER SERVICE

A number of dynamically developing Hungarian IT businesses offer advanced information technology solutions in conjunction with customer service tools, such as an electronic queue management system, kiosk, and other workflow solutions.

HEALTH CARE

ICT solutions are gaining more and more ground within the health sector.

-The telemedicine system supports the following functions:

- ***electronic medical records manager,***
- ***family doctor access,***
- ***contact to emergency medical services,***
- ***handling and filing of medical records,***
- ***ensuring communication between participants of the therapy,***
- ***remote patient flow management.***

-Clinical information systems

A virtual hospital model can be implemented in several health care institutions using web based solutions, which provides users quick and immediate access to their life saving medical data using mobile technology.

AGRICULTURAL-IT

Agricultural information technology in Hungary

The use of information technology and communication technology in the last few years has become particularly important in Hungarian agriculture. Development of modern procedures complying with the most recent trends plays an important role in enhancing productivity and increasing efficiency.

KEY AREAS:

crop production
animal husbandry
wildlife management
food safety
food processing
monitoring environmental impacts

THE COUNTRY'S OUTSTANDING RESEARCH AND DEVELOPMENT ACTIVITIES AND INNOVATIONS PROVIDE THE MOST COMPETITIVE TECHNOLOGIES ON AN ONGOING BASIS.

KEY AREAS OF USE INCLUDE

crop production, animal husbandry, wildlife management, food safety, food processing and monitoring environmental impacts. Effective support can be given to farmers on assessing game damage, checking greenhouse ecosystems, monitoring the usage of basic food commodities, pest control, or developing GPS based systems used for precision farming.

INTEGRATED SYSTEMS

Integrated systems containing real-time weather forecasts, and geological and crop data can be used both in animal husbandry and cultivation of plants, for example to set and control greenhouse ecosystem parameters.

AGRICULTURAL CORPORATE MANAGEMENT SYSTEMS

more transparent business processes

improved service level

better cost efficiency

Agricultural corporate management systems satisfy the special needs of agricultural companies by collecting farming related information in a transparent manner, and are connected to professional systems, like the mixing plant, the fuel station or the milk-house systems, by interfaces. M2M solutions allow conventional corporate management applications to get instant access to data detected by machinery and instruments, which makes it possible to introduce new business models. These ensure more transparent business processes, improved service level, better cost efficiency, and shorter return on investment periods.

ROBOTIC SYSTEMS

more efficient record keeping

time and fuel saving

Robotic systems—running usually on web-based interfaces—are connected to a quick reporting mobile application. By using it, work organisation and record keeping become more efficient, while time and fuel saving may also be achieved. Covered areas can be monitored through the central system, which is also able to create a complex structure of partial areas. Most control activities are programmable and are operated

by a remote access unit or programmable logical control unit. The developed mobile applications are suitable to aggregate and process data collected from various analogue and digital devices, including rainfall, temperature, moisture, and soil chemical composition data.

PROCESS MANAGEMENT SYSTEMS

The aim of the research of process management systems is to develop such mobile robotic devices and technologies, which provide the foundations for creating new products and services.

THE USE OF IMAGING AND IMAGE RECOGNITION DEVICES

Imaging and image recognition systems can be used to identify pests, thus specialists and farmers may gather relevant and accurate information to assist them in effective and economical pest control.

DRONES AND SENSORS

Drones can be deployed quickly, are able to provide high resolution images and can act as a cost efficient solution in remote sensing instead of or supplementing the satellite and small aeroplane based surveys used so far.

Smart city

- ***greenfield investments modernising***
- ***regions, cities and districts***

We offer the expertise, knowledge base and forward-looking innovative technologies and developments for the partners of the Hungarian National Trading House in a complex package for the purposes of greenfield investments and modernising regions, cities and districts affected by rehabilitation. Our 'Smart City' concept was created to construct a continuously expanding open system which can be easily adapted to the present needs of cities, providing answers to technical, environmental and social challenges as well. In our work flow we carry out complex surveys in accordance with the urban development plans and the rehabilitation plans for old districts. The survey may cover the entire concept or may focus on a specific field.

GOALS

WEALTH | HEALTH
SUSTAINABILITY | SAFETY
CHOICE | INDEPENDENCE
OPPORTUNITY

people

CITIZENS, EMPLOYEES, INNOVATORS, VISITORS...

ecosystem

PUBLIC SECTOR	3rd SECTOR	COMMUNITY	PRIVATE SECTOR
SCHOOLS	SOCIAL ENTERPRISES	NEIGHBOURHOODS	SMEs
EMERGENCY SERVICES	NOT-FOR-PROFITS	CULTURAL & RELIGIOUS	RETAILERS
COUNCIL	CHARITIES	FAMILY & SOCIAL	EMPLOYERS

soft infrastructures

LEADERSHIP AND GOVERNANCE
INNOVATION FORUMS
NETWORKS AND COMMUNITY ORGANISATIONS

CITY SYSTEMS

HEALTH
CULTURE
ECONOMY
CITY ADMIN
EDUCATION
SOCIAL CARE
UTILITIES
TRANSPORT SERVICES
PUBLIC SAFETY

hard infrastructures

INFORMATION AND COMMUNICATION TECHNOLOGY
TRANSPORT AND UTILITIES NETWORK
SPACES AND BUILDING

our professional competences:

URBAN PLANNING

- smart urban planning and infrastructure development, as well as related maintenance software
- development, adaptation and installation of parking systems together with web and mobile based payment applications

THE HUNGARIAN NATIONAL TRADING HOUSE'S SPECIAL OFFERS IN THIS CATEGORY:

- **PREPARATION OF A FULL SURVEY AND THREE-DIMENSIONAL SIMULATION**
- **INTELLIGENT PUBLIC TOILETS**
- **STREET FURNITURE**
- **SPECIAL URBAN GARDENING**

ROAD NETWORK DEVELOPMENT

- planning and construction of fixed-rail or open road systems, installation of SMART traffic control systems
- mapping road networks, railway networks and inland water routes, as well as surveying and monitoring their status using 3D laser scanner technology, together with construction or adaptation of a complex geographical information system (GIS), problem solving and work schedule planning

THE HUNGARIAN NATIONAL TRADING HOUSE'S SPECIAL OFFERS IN THIS CATEGORY:

- **NOISE AND VIBRATION REDUCTION EQUIPMENT**

TRAFFIC MANAGEMENT, PUBLIC TRANSPORTATION

- GPS based fleet tracking, traffic control, installation of web based passenger information systems
- mobile and other SMART ticket and season ticket purchase solutions

THE HUNGARIAN NATIONAL TRADING HOUSE'S SPECIAL OFFERS IN THIS CATEGORY:

- **INNOVATIVE CONCEPT FOR URBAN AND SUBURBAN TRANSPORTATION**
- **AUTOMATIC NUMBER PLATE RECOGNITION (ANPR) SYSTEMS**
- **INTELLIGENT, FULLY AUTOMATED PETROL STATIONS**

ENERGETICS

- utilisation of urban renewable energy resources, ensuring measurability for power systems, smart streetlight systems

THE HUNGARIAN NATIONAL TRADING HOUSE'S SPECIAL OFFERS IN THIS CATEGORY:

- **ALTERNATIVE HEAT USER SYSTEMS**
- **DECENTRALIZED AND COMBINED WIND AND SOLAR POWER PLANTS**
- **INTELLIGENT CHARGER STATIONS**

DRINKING WATER PURIFICATION AND WASTE WATER TREATMENT

- centrally supervised drinking water and waste water treatment systems with IT support
- eco-friendly waste water treatment plants and technologies with bio treatment solutions and low energy costs
- utilisation of waste water sludge and waste water biogas

THE HUNGARIAN NATIONAL TRADING HOUSE'S SPECIAL OFFERS IN THIS CATEGORY:

- **DECENTRALIZED AND COMBINED WATER POWER PLANTS (EVEN FROM WASTE WATER) AND WATER PURIFICATION EQUIPMENT**

WASTE MANAGEMENT

- selective waste collection systems, recycling, and energy production from waste
- SMART waste collection and transport

THE HUNGARIAN NATIONAL TRADING HOUSE'S SPECIAL OFFERS IN THIS CATEGORY:

- **SPECIAL RECYCLING PLANTS (URBAN ROAD PAVEMENTS, STREET FURNITURE, PLAYGROUNDS ETC.)**
- **WASTE INCINERATORS**

ENVIRONMENT PROTECTION

- climate protection and air quality control
- water and soil protection
- installation of centrally supervised monitoring and warning systems

THE HUNGARIAN NATIONAL TRADING HOUSE'S SPECIAL OFFERS IN THIS CATEGORY:

- **STORM WATER DISCHARGE OIL TECHNOLOGY**
- **SOIL CONDITIONER MINERALS AND SOIL BACTERIA**

EDUCATION, CULTURE

- development of e-training modules, and a SMART ticket and information system
- distance education, online courses and trainings
- digital library, digital archives

THE HUNGARIAN NATIONAL TRADING HOUSE'S SPECIAL OFFERS IN THIS CATEGORY:

- **WEB AND MOBILE BASED CHILD MONITORING APPLICATIONS**
- **SMART CITY CARD**

IT DEVELOPMENTS, RECORD KEEPING SYSTEMS

- complete IT support and security
- vehicle, population and epidemiological record keeping systems

THE HUNGARIAN NATIONAL TRADING HOUSE'S SPECIAL OFFERS IN THIS CATEGORY:

- **CUSTOMER SERVICE SYSTEMS**
- **DEVELOPMENT OF SPECIAL URBAN AND TRADE APPLICATIONS**
- **HEALTH CARE SERVICES (WITH WEB AND MOBILE BASED APPLICATIONS)**
- **IT SECURITY SYSTEMS (LOG-IN, ETHICAL HACKING SERVICES)**

PUBLIC SECURITY AND CIVIL PROTECTION

- integrated operative centres
- installation and operation of signalling and intervention systems

THE HUNGARIAN NATIONAL TRADING HOUSE'S SPECIAL OFFERS IN THIS CATEGORY:

- **INTELLIGENT CAMERA**
- **DRONE AND ALERT SYSTEMS**

SOCIAL

- city card, social card

THE HUNGARIAN NATIONAL TRADING HOUSE'S SPECIAL OFFERS IN THIS CATEGORY:

- **TRADING AND HEALTH CARD SYSTEMS**
- **TICKET PURCHASE POSSIBILITIES**
- **PUBLIC INFORMATION SYSTEMS (DIGITAL KIOSKS, TERMINALS ETC.)**

Waste management

Hungary successfully modernised and adjusted its waste management practices according to the environmental requirements of the 21st century—both in terms of technology and knowledge base. As a result of this,

INDUSTRIES ASSOCIATED WITH THE HUNGARIAN WASTE PROCESSING SECTOR HAVE GAINED FRESH PACE, AND NOW REPRESENT A WORLD CLASS STANDARD.

We offer competitive, innovative, good value-for-money solutions demonstrated by references to partners operating on European and global markets alike.

Waste management

Professional competencies

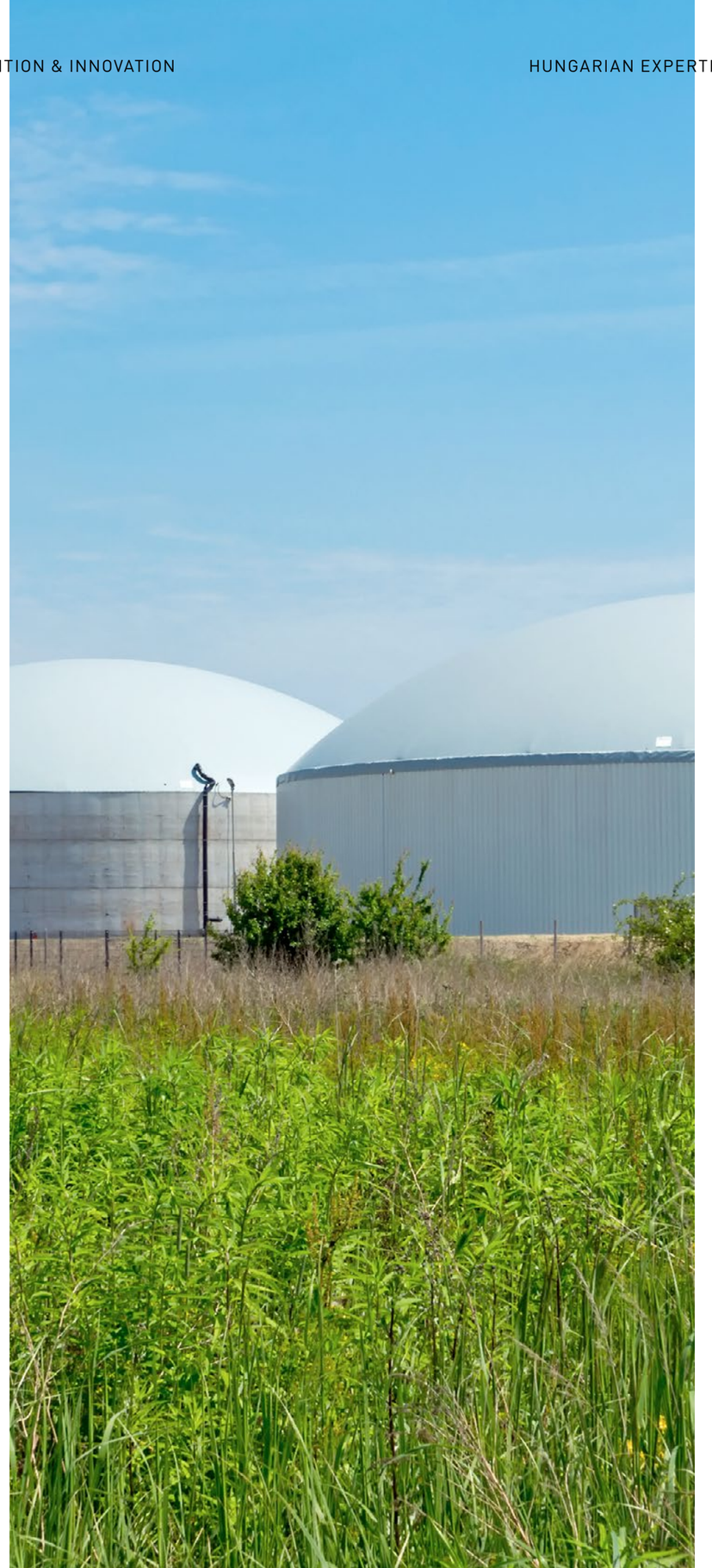
Collection

Waste is collected from communities on a regional basis. Collecting lines are supported by an IT system, thus optimal routes can be planned, while real time information is available for the coordinating organization due to the fleet tracking function. Plastic or metal containers are provided depending on the type and quantity of waste to be collected. The transport vehicles are suitable for semi-automatic emptying of local containers on site.

Transporting activities

Depending on the grade of hazardousness and the quantity, various superstructures, supplemented with IT support, are built in the vehicles for the transportation of waste. Due to their design both collection and transportation are secured. They also allow the fulfilment of special tasks with special equipment, such as snow blades, cleaning tools, and plant care accessories.

WE PROVIDE IT SOLUTIONS FOR KEEPING RECORDS OF THE SYSTEM, FOR CAPACITY PLANNING, AND FOR PERFORMING ASSOCIATED BILLING TASKS.



Waste utilisation

Collected waste is selected in special designed plants in a manual or fully automated way. Selected waste can be reused or—in certain cases—recycled as energy sources, or can be deposited.

ORGANIC WASTE CAN BE USED TO PRODUCE BIOGAS USING HUNGARIAN INDUSTRIAL TECHNOLOGY.

Waste for disposal

Waste is handled by incineration, landfill or other types of disposal. Our partners provide full scale services in designing, building and operating general or hazardous waste incinerators.

Landfill sites

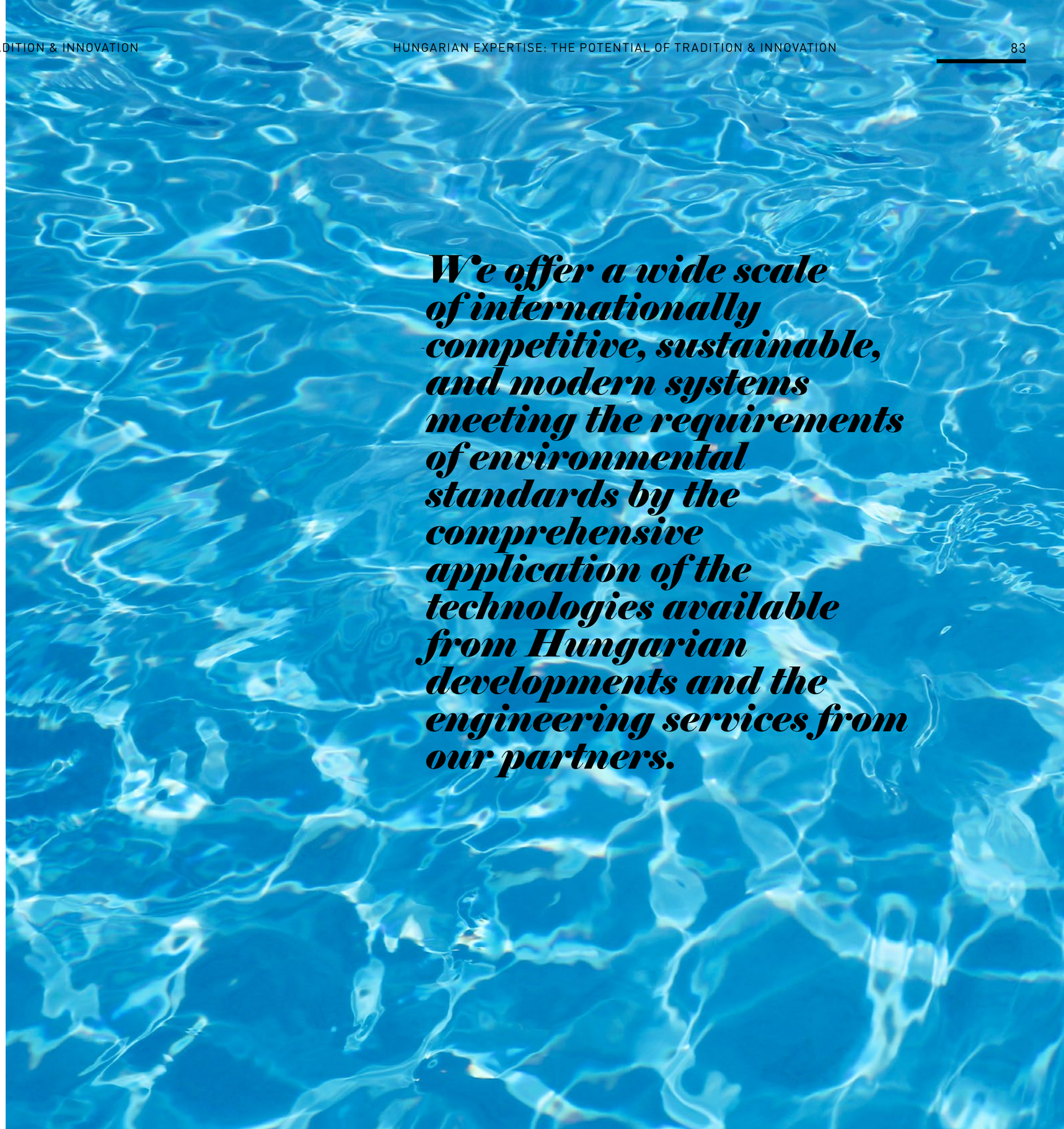
THROUGH OUR PARTNERS WE UNDERTAKE TO DESIGN, EXECUTE AND OPERATE LANDFILL SITES, WHICH ARE FULLY COMPLIANT WITH INTERNATIONAL STANDARDS.

We offer related services and products for the landfill sites, such as materials-handling equipment, special weighing scales and digital record keeping applications.

Water management

Water management

The preservation of the natural water cycle is being supported by a number of different ways, technologies and built environments.



We offer a wide scale of internationally competitive, sustainable, and modern systems meeting the requirements of environmental standards by the comprehensive application of the technologies available from Hungarian developments and the engineering services from our partners.

Professional competences

RIVER ENGINEERING

– FOR 200 YEARS IN HUNGARY

River engineering—supported by scientific knowledge and engineering technologies—dates back to a history of 200 years in Hungary. Our complex knowledge and our river engineering services are backed up by decades-long references and there is a high demand for this kind of knowledge in our target markets.

FLOOD CONTROL

- **RESERVOIRS**
- **WEIRS**
- **MOBILE DAMS**

As a consequence of our natural conditions, flood control and management is a priority task in Hungary. Our accumulated experiences, professional knowledge and the available technologies—design and construction of reservoirs and weirs, installation of constructed and mobile dams—are considered high priority export products, which are competitive in the international market. Engineering works are supplemented by the technical solutions used during the flood control operations (such as pumps and specialised earth-moving machineries).

WATER PURIFICATION

Based on Hungarian engineering expertise, we developed innovative solutions to purify underground, surface and marine water, which meet high physiological and technical standards combined with profitability. Our constructed and mobile container solutions are used in agriculture, food industry, and drinking water supply and bottling alike.

WATER CONSUMPTION

- WATER RESOURCE IDENTIFICATION
- GEOLOGICAL EXPLORATIONS
- WELL DRILLING

We provide solutions for the whole production cycle of residential water consumption, whether it is water resource identification, geological explorations or well drilling. Thus, our purification equipment is able to produce drinking water meeting the requirements of the standards using underground water or surface waters (fresh and salty). Our filtering equipment can be installed in any country of the world.
We recommend installation of reservoirs and bottling plants to use the purified water sources, but the technology can also be directly combined with the local infrastructure. Metering solutions for water consumption can be delivered by analogue or digital signal transmitting systems.

WASTE WATER TREATMENT

Our partners offer specialised expertise and knowledge for treating industrial, agricultural and municipal waste water, including waste water containing hazardous waste, and rainwater drainage. In addition to the purification of waste waters, they can also be used for energy production. These solutions can be installed in any place of the world without size limitations.

IRRIGATION

In order to protect existing water resources, and to handle periods of water shortages, irrigation technologies have now become the most innovative area within the industry. Several partners offer world class solutions to produce irrigation water (for instance using salt water), to store water, and to ensure delivery. The devices are offered together with installed spray heads, dripping or plant-based impoundment, or nutrient delivery solutions—all with IT support.

Several partners offer world class solutions to produce irrigation water (for instance using salt water), to store water, and to ensure delivery.

BALNEOLOGY

Hungary is the country of thermal waters. Our partners' expertise provides excellent support in exploiting thermal springs, planning and constructing spas and wellness baths, and utilizing geothermal energy, combined with health care facilities as a related service. We have working models in agricultural, communal heat supply, and power generation systems.

WATER RESEARCH

The Hungarian water research projects preserve a hundred year long tradition. We acquired extensive experiences in mapping and exploiting water resources, conducting geological research operations, and managing engineering and technical R&D programmes.

Hungary is the country of thermal waters

ENERGY PRODUCTION

Pieces of equipment designed by our partners include stationary power plants installed on moving waters, and modern, container based solutions that can be deployed promptly during emergency situations, in regions without connection to the central grid, and in extreme geographic locations. The installed capacity of these facilities ranges from 50 kW up to several MW

Porcelain

Setting standards

- EXCLUSIVE, HAND-PAINTED LUXURY PORCELAIN
- A BRAND OF DISTINCTION IN 58 COUNTRIES
- CRAFTMANSHIP DATING BACK TO 1826
- CUSTOM-MADE PRODUCT
- TAKING 16 000 SHAPES IN 5000 PATTERNS
- EACH PIECE A MASTERPIECE
- LIMITED EDITIONS
- SPECIAL ASSIGNMENTS ACCEPTED
- CONTINUOUS PRODUCT DEVELOPMENT PERPETUAL REPLACEMENT GUARANTEE

- PRESERVING CRAFT TRADITIONS
- LUXURY BRAND KNOWN WORLDWIDE
- FINE, HARD, WHITE, LUXURY PORCELAIN
- THE WORLD'S LARGEST MAKER OF HANDMADE PORCELAIN
- A WORKFORCE OF 1500
- ALMOST 700 PAINTERS
- 250 SHAPERS
- COUNTRY TOWN 130 KM WEST OF BUDAPEST
- A COMMUNITY OF 3500

Manufactory

- **AN OLDER WORD FOR AN OLDER TRADITION**
- **SHAPED AND PAINTED SOLELY BY HAND**
- **USING SELF-MANUFACTURED WHITE-WARE**
- **CRAFTSMANSHIP PASSED FROM PARENT TO CHILD**
- **IN-HOUSE APPRENTICESHIP**
- **WIDE SELECTION OF SHAPES AND PATTERNS**
- **PRESERVING CRAFT TRADITIONS**

MINISTRY OF
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AND TRADE

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