

# PROFESSIONAL PARTNERSHIP



## 1. COMPANY COMPETENCE

„PZT - INWESTEL” S.A. since 1992, offers professional services on the telecommunication market:

- designing and building telecommunication networks, IT infrastructure and teletechnical systems,
- installation and testing of equipment for teletransmission systems, radio lines and cellular phones,
- building radio line networks, including mast and towers,
- offering protecting overalls for employees working in electromagnetic fields,
- selling renewable energy solutions.

The company owns Certificates **ISO 9001:2000** and **AQAP 2110:2006**.

PZT - INWESTEL **guarantees** high quality tasks realization, good conditions of contract realization, after installation service.

## 2. OUR SERVICES

### DESIGNING

#### **Transmission and Radio Communications**

- ✓ designing of transmission systems (SDH, DWDM),
- ✓ designing of radio systems,
- ✓ designs of radio links SDH,
- ✓ planning for radio frequency within obtaining of allocation of frequencies from URTiP,
- ✓ reports on electromagnetic interaction and influence on the environment.

#### **Informatics and commutation**

- ✓ designs SW and HW of exchanges,
- ✓ designing of equipment and data transmission network IP, ATM,



### **Communication infrastructure**

- ✓ building and development designs of data communication infrastructure,
- ✓ designs of power industry terminals and power plant for telecommunication objects,
- ✓ full building and structural designs for base stations of radio communication systems,
- ✓ designing of accessories for towers and masts,
- ✓ designs of lightning for towers and masts,
- ✓ designs of informatics management systems,
- ✓ designs of structural cabling systems.

## **SYSTEM INSTALLATION**



### **TRANSMISSION SYSTEMS**

- ✓ installation of transmission systems SDH and DWDM,
- ✓ complete testing and measurement of transmission systems,
- ✓ drawing up after-works documentary,
- ✓ measurement documentary,
- ✓ service, operating, maintenance and management of existing transmission network,
- ✓ management and building supervision.

### **INFORMATICS AND COMMUTATION SYSTEMS**

- ✓ installation, start up, testing of digital exchanges,
- ✓ modernisation of digital exchanges,
- ✓ installation, start up, testing, maintenance and management of equipment and data transmission network IP, ATM,
- ✓ carrying out, analysing and documentary of tests,
- ✓ service, operating, maintenance and management of digital exchange,
- ✓ management and building supervision.

## ***RADIO COMMUNICATION SYSTEMS***

- ✓ installation of radio systems,
- ✓ modernisation of radio systems – change of antennas' mounting height, replacing of antennas, feeders, cables and other elements of radio system,
- ✓ measurement of feeders,
- ✓ site viewing,
- ✓ preservation and damage repair,
- ✓ maintenance and management of existing radio communication networks,
- ✓ management and building supervision.



## ***BUILDING OF INFRASTRUCTURE***

- ✓ inventory control of informatics and energetic network in the existing buildings and preparing documentation,
- ✓ accommodation adaptation for data communication installations,
- ✓ building and modernisation external and internal supply power,
- ✓ building of power industry terminals,
- ✓ delivery and assembling of power plant,
- ✓ electrical power engineering installation with safety systems,
- ✓ after-works and operating (periodic) electrical measurement,
- ✓ complete installation of structural network,
- ✓ delivery and assembling of steel constructions for radio communication systems,
- ✓ delivery and assembling of lightning equipment for towers,
- ✓ delivery and assembling of technical containers with equipment,
- ✓ building of foundation for towers and containers,
- ✓ delivery and assembling of objects fencing,
- ✓ management and building supervision.

## ***TELECOMMUNICATION INVESTMENTS***

- ✓ investment planning,
- ✓ contracts and projects management in telecommunication and informatics sectors,
- ✓ complete formal/legal services (obtaining Permission to Build, Permission to Use),
- ✓ drawing up geological documentation,
- ✓ drawing up geodesic documentation,
- ✓ drawing up building design with a report of electromagnetic interaction and structural documentation,
- ✓ building and modernisation of infrastructure,
- ✓ installation of communication and informatics systems,
- ✓ radiometry for environmental protection and safety working conditions,
- ✓ management and building supervision.



## ***TELEPHONE EXCHANGE ALCATEL S12***

- ✓ repair of Alcatel S12 exchange – family “E” and “J”,
- ✓ repair transmission systems SDH
- ✓ hardware and software services at the customer premises,
- ✓ installation, start-up or migration existed exchanges,
- ✓ cable production: inside rack cables, interface rack cables, transmission cables, subscriber cables, power on and plug-in cables,
- ✓ stock and spare parts management,
- ✓ hardware and electronic, radio, teletransmission devices disassembly and utilization
- ✓ outsourcing in range of using and maintenance telecommunication base stations.



### 3. SERVICE CENTER

Knowledge and experience of PZT - INWESTEL Co. allowed to create **professional telecommunication electronic Service Center**. The companies concluded Consortium agreement to perform service repairs of electronic telecommunication equipment.

#### **PZT-INWESTEL became a leader of Consortium.**

Service lines are situated in the Centre of Boards Repair S 12 in Poznan, and have been created for repair of Alcatel S12 exchange and transmission systems SDH as well.



The lines are equipped in:

#### **Subscriber boards**

##### **Repair stands of subscriber boards „ELC”**

1. **Tester ATG-2013-7**

Stand for testing occasional defects, checking product in extreme conditions and in so-called „thermal defect”. Tester include chamber for heat packages ALCB (to 16 pieces), where in the same time we can repair.

2. **Integrated Tester CTS-02-02**

Stand for testing subscriber boards "ELC", which allow to making tests for 24 ALCB in the same time.



##### **Stands to subscriber boards repair „J”**

1. **Functional tester subscriber PCBS SCHLUMBERGER T-0075**

Tester allows for full automatic testing ALCN, ALCNV i ALCP packages of all Alcatel products.

2. **Integrated Tester CTS-01-08**

Stand for testing boards “J” packages defects.

3. **Tester ATG 3002**

Stand for testing boards “J” packages defects in which all packages working in similar environment like in real conditions.

## Control boards

### Stands to control boards repair „ELC”

1. **Tester MAA-14-1**  
Stand for testing control boards “ELC” packages defects in which all packages working in similar environment like in real conditions.
2. **Integrated Tester CTS-01-04**  
Stand for testing control boards “ELC” packages defects in which all packages working in similar environment like in real conditions. Tester check other packages spectrum then MAA-14-01.



### Stands to control boards repair „J”

1. **Tester MAA-14-2**  
Stand for testing control boards “J” packages defects in which all packages working in similar environment like in real conditions.
2. **Integrated Tester CTS-01-02**  
Stand for testing control boards “J” packages defects in which all packages working in similar environment like in real conditions. Tester check other packages spectrum then the rest testers in this group.
3. **Integrated Tester CTS-01-03**  
Stand for testing control boards “J” packages defects.



## Concentrator boards

### Tester to uplift concentrator boards „ELC”

1. **Integrated Tester CTS-02-06**  
Stand for testing defects of control and subscriber uplift concentrator boards “ELC”.
2. **Integrated Tester CTS-02-07**  
Stand for testing defects of control and subscriber uplift concentrator boards “ELC”.  
Tester check other packages spectrum then the rest testers in this group.

### **Tester to uplift concentrator boards „J”**

1. **Integrated Tester CTS-01-04**  
Stand for testing defects of control and subscriber uplift concentrator boards “J”.
  
2. **Integrated Tester CTS-02-05**  
Stand for testing defects of control and subscriber uplift concentrator boards “J”. Tester check other packages spectrum then the rest testers in this group.



### **Tester to control and clock plate measurement**

1. **Integrated Tester CTS-01-06**  
Stand for testing defects of control and clock plate measurement packages.
  
2. **Integrated Tester CTS-01-05**  
Stand for testing defects of control packages. Tester check other packages spectrum then the rest testers in this group.
  
3. **Tester to packs repair:**
  - ◇ Tester ATG 3003
  - ◇ Tester ATG 3005
  - ◇ Tester ATG 3006

Tester aided to repair of control and clock boards measurement.

### **Stands to converters repair**

- **Tester ATG-2012-7**  
Allows test of Alcatel S12 System electric converters defects.

### **Optical disk service boards**

- **Integrated Tester CTS-01-07**  
Stand for testing packages defects of control boards and optical disk boards in which all packages working in similar environment like in real conditions.

## 4. OUR TEAM

The „PZT - INWESTEL” S.A. staff is a 85 professional people work in four departments: Sales and Marketing Department, Operating Department, Finance & Administration Department. The engineering and technical staff is constantly improving its qualifications by participation in many training courses.

**Technical team** is a trained group of specialists and experts with experience and specialist licenses in telecommunication:

- designers of telecommunication and informatics systems,
- designers of communication infrastructure,
- testers of transmission and commutation systems,
- wiremen of communication and informatics systems,
- specialists and experts in: Intelligent Networks, GSM/UMTS, Radio Access, SDH/DWDM, Management Systems,
- wiremen of radio communication systems,
- Project Managers in the field of communication and informatics,
- Building Supervisors,
- specialists preparing formal/legal and building documentation for new telecommunication investments.



### Specialist Licence in possession:

- licence for supervision of building works in installation of wire telecommunication within its infrastructure,
- licence for supervision of building works in installation of radio communication,
- Electrical Licence for designing and supervising of works,
- Radio Licence for designing
- licence for designing and supervising of spot works,
- licence for designing and supervision of linear works
- licence for Designing and Engineering
- Security Letter for Access to Closed Documents.

## 5. PARTNERS

- INWESTEL represents **FIBERHOME International Technologies Co. Ltd.** as a main distributor in Poland. FiberHome is an outstanding product and solution provider for information and telecommunication in the world.



### Company information

FiberHome Technologies traces its heritage to “Wuhan Research Institute of Posts and Telecommunications (WRI)”. Established as early as 1974, WRI is well-known as the cradle of optical communication technology in China. Starting with R&D in the field of optical communications, FiberHome Technologies has evolved into a major Telecom Industrial House, providing total solution in the field of fiber-optic communication, data networking and wireless communication in China over last 30 years. The range of products, Telecom application solutions it can offer and the global customers who have continued their reliance bears testimony of its leadership. With core competence in Optical Communications, FiberHome Technologies has also contributed to international standardization through ITU-T.

Compliance to International Quality Standards and excellence in engineering services have lead FiberHome Technologies to become an internationally known brand as a Global Telecom Solution Provider. Based on ASP (Application Service Profit) Concept, FiberHome Technologies Group is determined to develop a new chapter in the networking world. Through its continuous and relentless innovative efforts, FiberHome Technologies is expanding its operations and aims to Create True Value and Broaden the Future of its customers globally. All the group companies of FiberHome Technologies have established QA system of international standard and are accredited with the ISO9001/2000 quality system certification. FiberHome Technologies has also passed ISO14000 international environment management system certification and realizes its obligations for the public through improving the environmental friendliness of its products. All its products conform to the RoHS Directive.

### Products

FiberHome Group produce all most of telecommunication solutions. The main product series:

- ◇ High-speed Broadband Optical Transmission Systems (OTN, OXC, ROADM, DWDM/SDH, CWDM, ASON, MSTP, ONMS)
- ◇ Access Network System (DSLAM, EPON)
- ◇ Data Networking Communication
- ◇ NGN (Softswitch & IMS)
- ◇ Wireless Communication
- ◇ Optical Fibers and Optoelectronic Devices

FiberHome takes an active role face trends of network convergence and service transformation, and provides the end-to-end solutions covering the entire network from service and application, core, bearer and transmission, and access layers to the terminals and builds up its all-around capabilities in future’s convergent network. They engraved its own marks on ITU-T standards as the father of three standards ITU-X.85, ITU-X.86, and ITU-X.87. It is an active initiator and promoter of the FTTH industry and a main contributor of the relevant standards.

They cooperate with such an world telecommunication operators like: China Telecom, China Mobile, China Union, China Netcom, Reliance In Indea, Itali-telecom in Italy, BCN in Niger, Algeria Telecom, Ethiopia Telecom and others.

- INWESTEL is an exclusive distributor of protective overalls **ESO 3 ALEKSANDER**.

This protective overalls is offered for employees who work In electromagnetic Fields, destined for workers whose profession involves being in field that are under the influence of frequency bands VHF, S, L, X and C. Such a conditions appear close radio stations, broadcasting appliances, base station transmitters, cellular telephony, radiolocation or radar stations, radio navigation and satellite systems. It fulfills the demanding of specialist institutes and have CE.



## 6. RECOMENDATIONS AND AWARDS

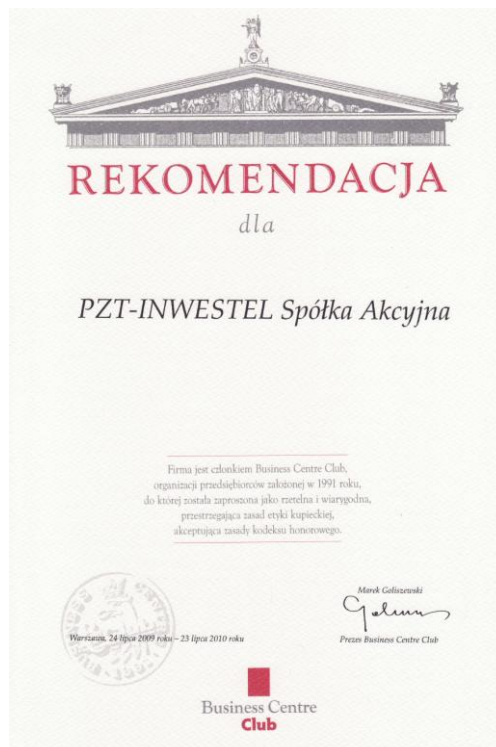
The "PZT - INWESTEL" S.A. business activity is very favourably appreciated on the telecommunication services market which is approved by many honourable mentions.

To the most important ones belong:

- ◇ The Honour of Solid Partner in 1997 and 1998 for reliability, honesty and punctuality in business activity
- ◇ The Honourable Mention of The Communication Minister for participation in modernisation of the Warsaw Telecommunication Junction (installation and start up of eight transit exchanges -1000 S12 System of ALCATEL SESA Company)
- ◇ Thanks from The Polish Power Engineering Network for successful cooperation and involvement in changing CA PENTACONTA for CA ALCATEL S12 and thanks for perfect tasks accomplishment
- ◇ Recommendation from Business Centre Club,
- ◇ European Medal for provided by "PZT – INWESTEL" S.A. telecommunication services



- ◇ Distinctions from Business Club – „Gepard Biznesu”, „Gazele Biznesu” for dynamic developing companies
- ◇ The Quality System ISO 9001:2001 Certificate, military AQAP Certificate and Finance Certificate,
- ◇ Many recommendations and references from customers which we listed on our web site.



## 7. OUR CUSTOMERS

“PZT – INWESTEL” Co. enjoy the pleasure of cooperating with so innovative and well-known companies as:

- ◇ MOTOROLA
- ◇ ALCATEL
- ◇ CISCO
- ◇ SIEMENS
- ◇ FRANCE TELEKOM



**WELCOME TO COOPERATION**