

# POLISH GEOLOGICAL INSTITUTE IN ASTRA PROJECT

IDENTIFICATION OF KEY PROBLEMS, PLANNERS NEEDS  
AND POSSIBILITIES

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# GEOINFORMATIC INNOVATIVE SOLUTIONS FOR CITIES AND COMPANIES ON THE BASIS OF GDANSK EXPERIENCE



DATE: OCTOBER 10, 2005

## *MAIN TOPICS:*

- CITY OF GDANSK (CG) - CITY HALL  
GIS IN GDANSK, NEEDS AND  
POSSIBILITIES

- CG GEODESY DEPARTMENT -  
AVAILABLE MAPS

- CG GDANSK DEVELOPMENT AGENCY -  
USE OF GIS FOR SPATIAL PLANNING

# FIRST MEETING WITH TRICITY (GDAŃSK, SOPOT, GDYNIA) STAKEHOLDERS

DATE: OCTOBER 17, 2005

MAIN AIM:

- TO INFORM ABOUT ASTRA PROJECT
- TO DEFINE THREATS DUE TO CLIMAT CHANGE

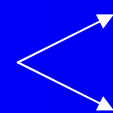


PARTICIPANTS:

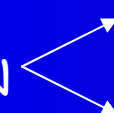
- GDANSK CITY - DEPARTMENT OF ENVIRONMENTAL PROTECTION
- GDANSK DEVELOPMENT AGENCY
- MARITIME OFFICE
- REGIONAL BOARD OF WATER MANAGEMENT
- POLISH GEOLOGICAL INSTITUTE

# DISCUSSED PROBLEMS

## POTENTIAL RISK:

- FLOODS  MARINE  
RIVER

- GROUND WATER  GROUND WATER LEVEL RISE  
SALT WATER INTRUSION

- COASTAL EROSION  DUNES (BARRIERS)  
CLIFFS STABILITY

## DISCUSSED PROBLEMS

HOT SPOTS - IDENTIFICATION OF EXAMPLES OF ENDANGERED FACILITIES IN GDAŃSK:

- GDAŃSK RAFINERY
- GROUND WATER INTAKES
- CONDITION OF FLOOD BANK WITHIN CITY BORDER
- HIGHT OF HARBOUR PIERS
- WASTE WATER TREATMENT PLANTS
- IN GENERAL: INFRASTRUCTURE OF LOW LYING AREAS (< 2,5 M A.S.L.)

# DISCUSSED PROBLEMS

## OTHER ISSUES:

- READINESS TO PROVIDE DATA IN ORDER TO GET SEAREG RESULTS MORE DETAILED
- NATIONAL STRATEGY OF SPATIAL MANAGEMENT
- NEED FOR MINISTRY INVOLVEMENT - APPLICATION OF RESULTS AGAINST LACKING LAW REGULATIONS
- TRICITY STAKEHOLDERS ARE WILLING TO COOPERATE WITH EACH OTHER
- INTENTION TO SIGN AGREEMENT ON COOPERATION WITH PGI

# DATA AVAILABLE AND NEEDED

## *WE HAVE:*

- GIS GEOLOGICAL, GEOCHEMICAL AND HYDROGEOLOGICAL MAPS
- RESULTS OF GROUND WATER MONITORING & TOOLS FOR GROUND WATER MODELLING AND PREDICTING CHANGE OF GROUND WATER TABLE

## *WE HAVE BEEN OFFERED:*

- DIGITAL TERRAIN MODEL
  - NEED OF QUALITY CHECK
  - GEODESIC MEASUREMENTS
  - 800. 000 POINTS / 260 KM<sup>2</sup>
  - POSSIBILITY OF IMPROVEMENT?
- SPATIAL DEVELOPMENT PLANS
- EXISTING INFRASTRUCTURE MAPS
- DETAILED INFORMATIONS ABOUT RIVERS' EMBANKEMENT AND INFRASTRUCTURE

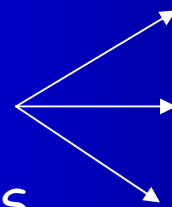
# DATA AVAILABLE AND NEEDED

## *NEEDED DATA:*

- DIGITAL TERRAIN MODEL - LIGHT DETECTION AND RANGING (LIDAR DTM)
- BETTER EARTH CRUST VERTICAL MOVEMENT DATA (E.G. SATELLITE INTERFEROMETRY)

# FIRST PROPOSED IDEAS ON PGI INPUT TO ASTRA PROJECT

- IDENTIFICATION OF AREAS  
ENDANGERED BY FLOODS  
& MODELLING OF FLOOD EVENTS



MARINE

RIVER

WET SOILS AND/OR SURFACE  
OCCURANCE OF GROUND WATER

- INTRUSION OF SEA WATER TO FRESH WATER & GROUND WATER  
MODELLING
- CLIMATE CHANGE AND SLOPE STABILITY (CLIFFS' EROSION,  
LANDSLIDES, COASTAL PROTECTION)