



PRESENTATION OF INNOVATIVE APPROACH  
IN FLOOD PREVENTION,  
SOLUTIONS IN WATER MANAGEMENT  
BY CZECH COMPANY

**SINDLAR EU group**

Water Resources Engineering Design  
Landscape Ecology and River Restoration

[www.sindlar.eu](http://www.sindlar.eu)

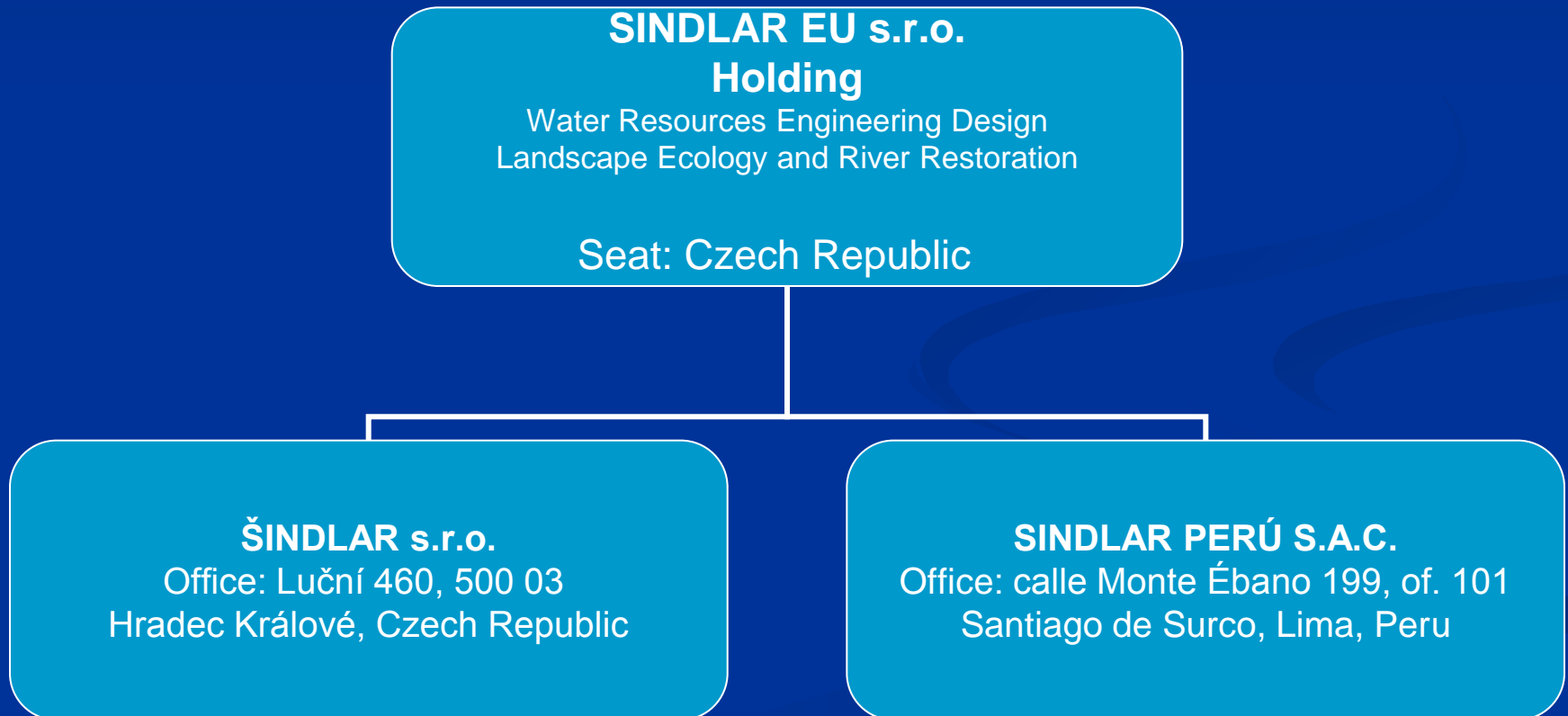
Ing. Miloslav Šindlar



## SINDLAR EU GROUP – PRESENTATION OF THE COMPANIES

ŠINDLAR s.r.o. company is a member of SINDLAR EU group

The group companies are connected as shown in following organization chart:





## SINDLAR EU GROUP – PRESENTATION

### PROJECTS ON THE TOPIC:

- Flood control measures
- Dry storage reservoirs and polders
- Water resources engineering
- Water reservoirs
- Water in urban areas
- Drinking water supply, sewerage, wastewater treatment plants
- River restoration
- Water ecosystems management plans





## SINDLAR EU GROUP – PRESENTATION

### INTERNATIONAL PROJECTS

- South America - Peru
- Slovakia
- Iraq



The projects focus on water construction services (sites) that maximally meet landscape environment and prevent such similar problems solved in Europe as environmental burden from own history.



## FLOOD PROTECTION AND RIVER RESTORATION IN THE CZECH REPUBLIC

- Historical tradition of flood protection solution system in the Czech Republic by typical hydraulic structures. There was a **conflict between water construction engineers and nature protection.**
- ŠINDLAR s.r.o. company, has developed alternative solutions of hydraulic structure - close to the nature, since 1995
- Ministry of Environment in the Czech Republic current strategy is **Flood Protection Close Nature (FPCN)** - methodology (MoE official reports No. 11/ 2008) The ŠINDLAR s.r.o. company is author of the part of the methodology with solution for rivers and floodplains.
- The main methodology benefit: **Current solution of the** European Parliament and Council directives **requirements**
  - **Water Frame Directive (WFD) (2000/60/ES)**
  - **Flood Risk Maintenance (2007/60/ES)**



## FLOOD PROTECTION AND RIVER RESTORATION IN THE CZECH REPUBLIC

These procedures were neglected or even refused significantly in the past before the Czech Republic joined the EU.

When the Czech Republic has joined the EU, the implementation process of WFD measure changed in water authorities approach to river and flood plain ecosystems restoration.

### PROPOSED SOLUTIONS:

1. **Structural funds continuing for Flood Protection Close Nature (FPCN) support**
2. **„Water Frame Directive“ and „Flood risk maintenance directive“ bonding with Flood Protection Close Nature (FPCN) conception by setting it into the EU legislation**

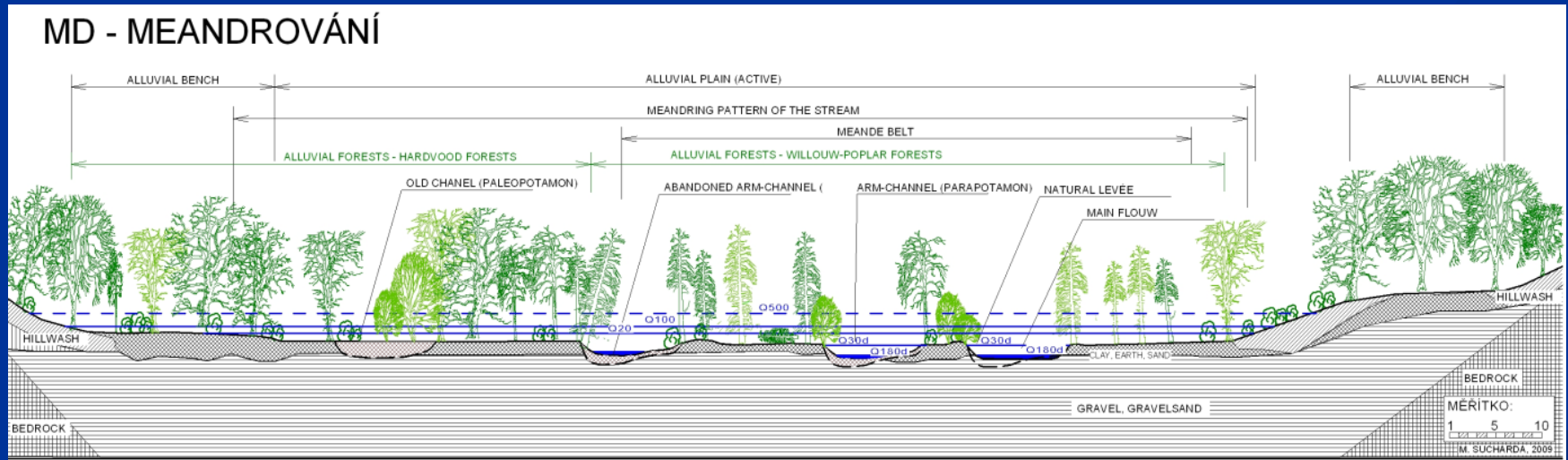




## ŠINDLAR S.R.O. - INNOVATION METHODOLOGY

### The catalogue of Flood Protection Close Nature .... No 1.

FPCN in rural areas; river restoration - bank flow capacity will be reduction and improving of overflowing to flood plains, which participate on flood flow waves transformation.

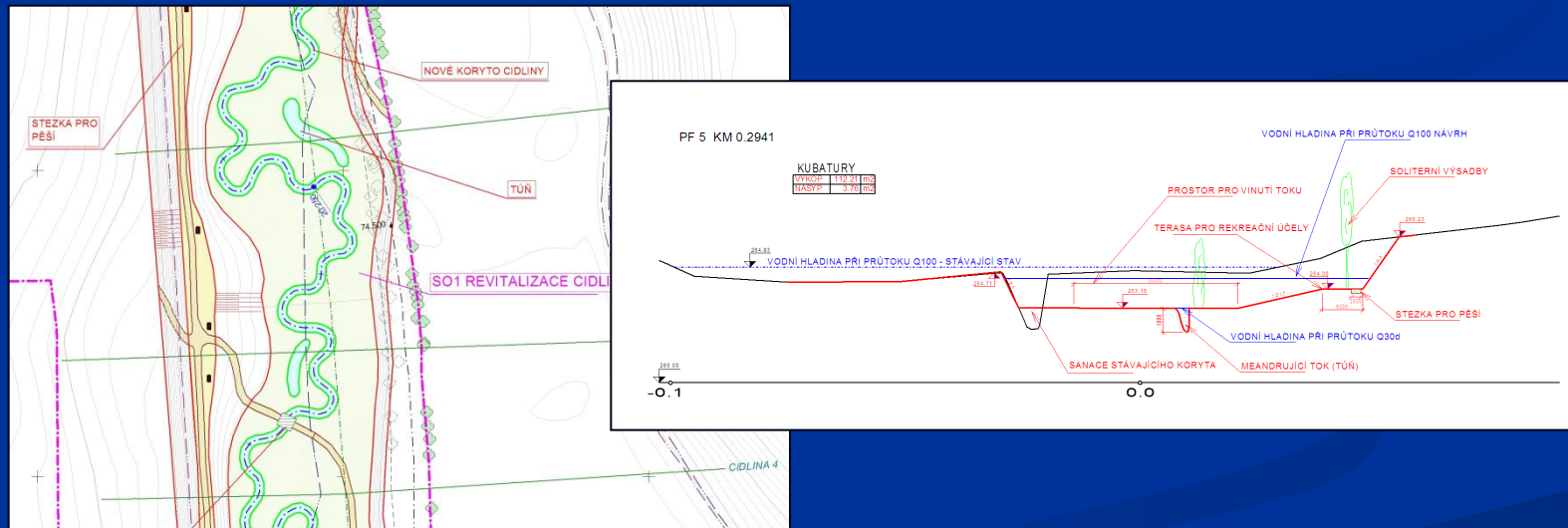




## ŠINDLAR S.R.O. - INNOVATION METHODOLOGY

### The catalogue Flood Protection Close Nature ... No 2.

FPCN in build-up areas, improving of river channel capacity and speeding flow off, compound profile with moving cunette – restoration of river channel, dike possibility of build-up areas

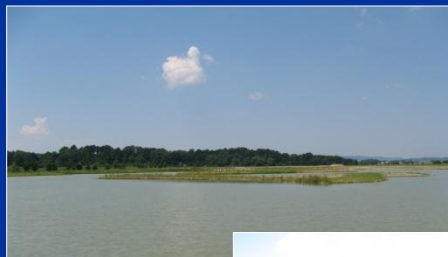
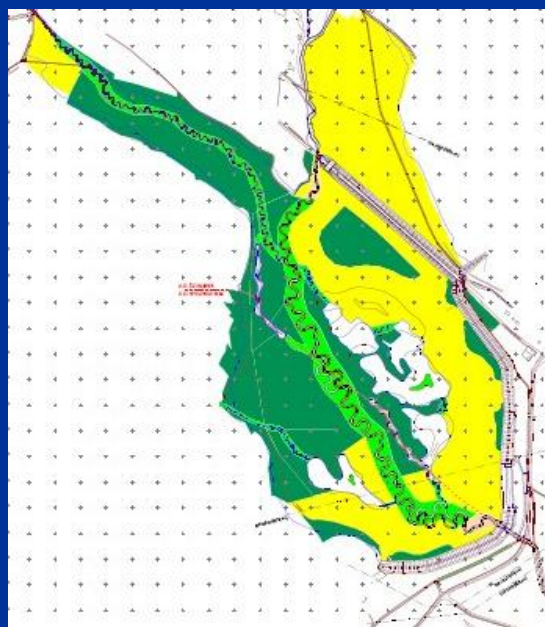




## ŠINDLAR S.R.O. - INNOVATION METHODOLOGY

### The catalogue Flood Protection Close Nature ... No 3.

FPCN by flood wave tranformation in dry storage reservoirs or polders and river and flood plains restoration in storage basin

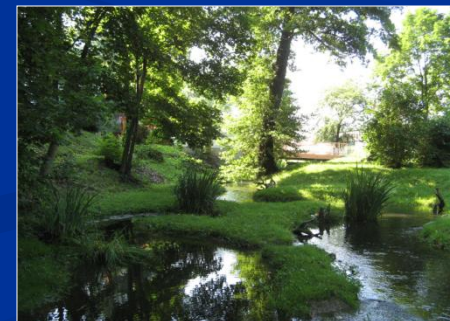




## ŠINDLAR S.R.O. - INNOVATION METHODOLOGY

### The catalogue Flood Protection Close Nature ... No 4.

River restoration which provides ecological and architectural function in cities and towns. These are not the direct part of required flood protection (for example in parks and inhabited areas, mill-races)

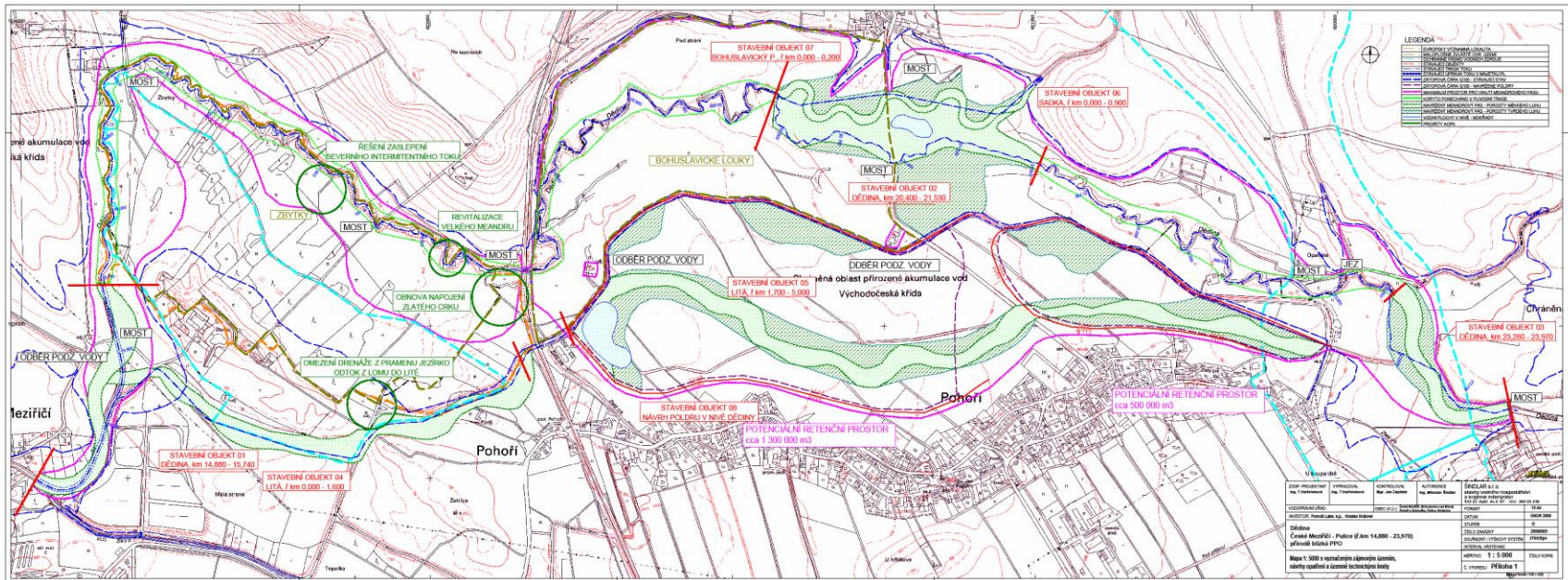




# SINDLAR EU GROUP CONSTRUCTIONS AND PROJECTS PRESENTATION

## Catchments plans, MoE strategy

## concept of nature close flood protection in 7 priority catchments







## SINDLAR EU GROUP

### CONSTRUCTIONS AND PROJECTS PRESENTATION

1. Žichlínek – reservoir included river and flood plain restoration within dry reservoir
2. Opava river – Heřmínovy, middle variant of dam including Opava river restoration
3. Elbe river – shipping conditions improvement on river Elbe from Střekov to the national border
4. Kněhyně and Kopytná rivers – Carpathian flysh gravel branching streams solution
5. Kutrín – nature close solution of dry reservoir in environmentally very sensitive area
6. Cihlářský potok creek – water construction system of 17 water construction works
7. Iraq - water supply and distribution problems solution within territorial plans
8. Slovakia – river restoration of Domanižanka creek in Považská Bystrica town
9. Peru, region Piura – irrigation system of COMISA company

**And others ..... [www.sindlar.eu](http://www.sindlar.eu)**





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SINDLAR EU GROUP

**THANK YOU FOR YOUR ATTENTION**

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