

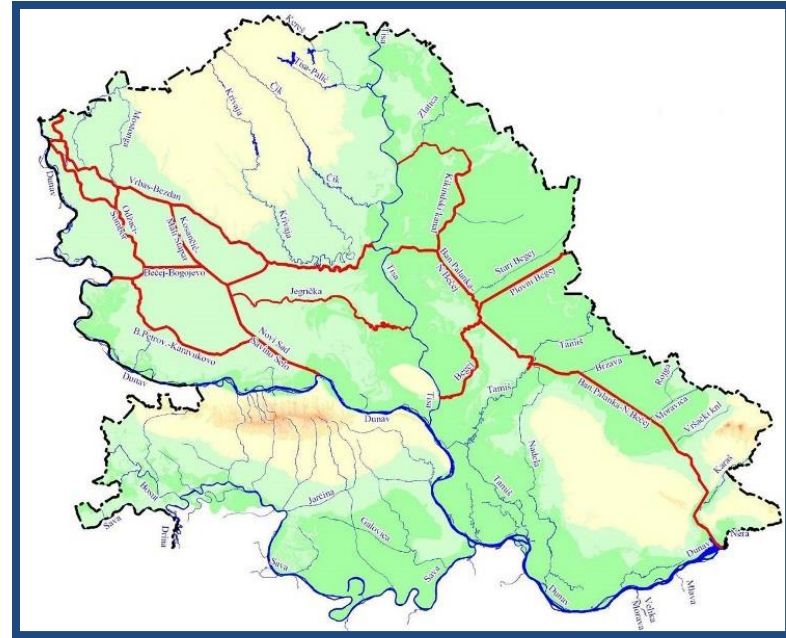
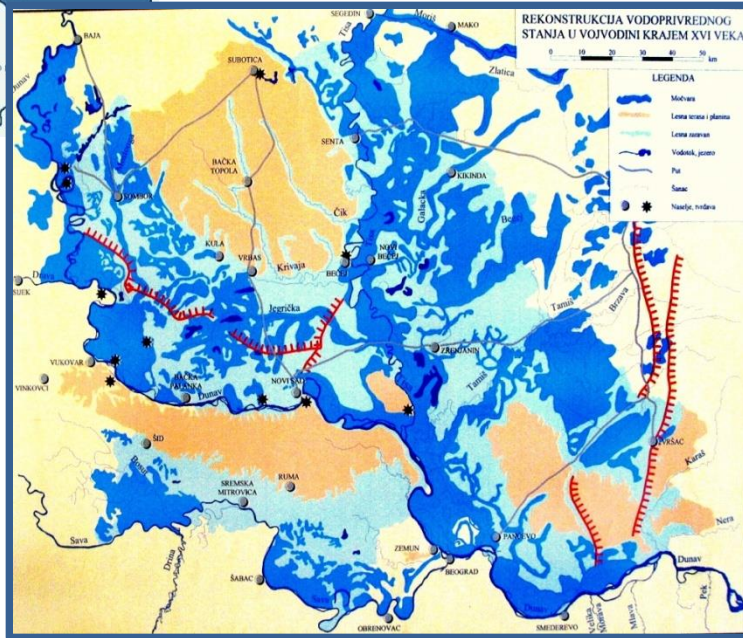


Marko Vuksanović

HYDROTECHNICAL HERITAGE ROUTE AS A POTENTIAL DRIVING FORCE FOR DEVELOPMENT OF TOURISM IN LOCAL COMMUNITIES IN THE PROVINCE OF VOJVODINA

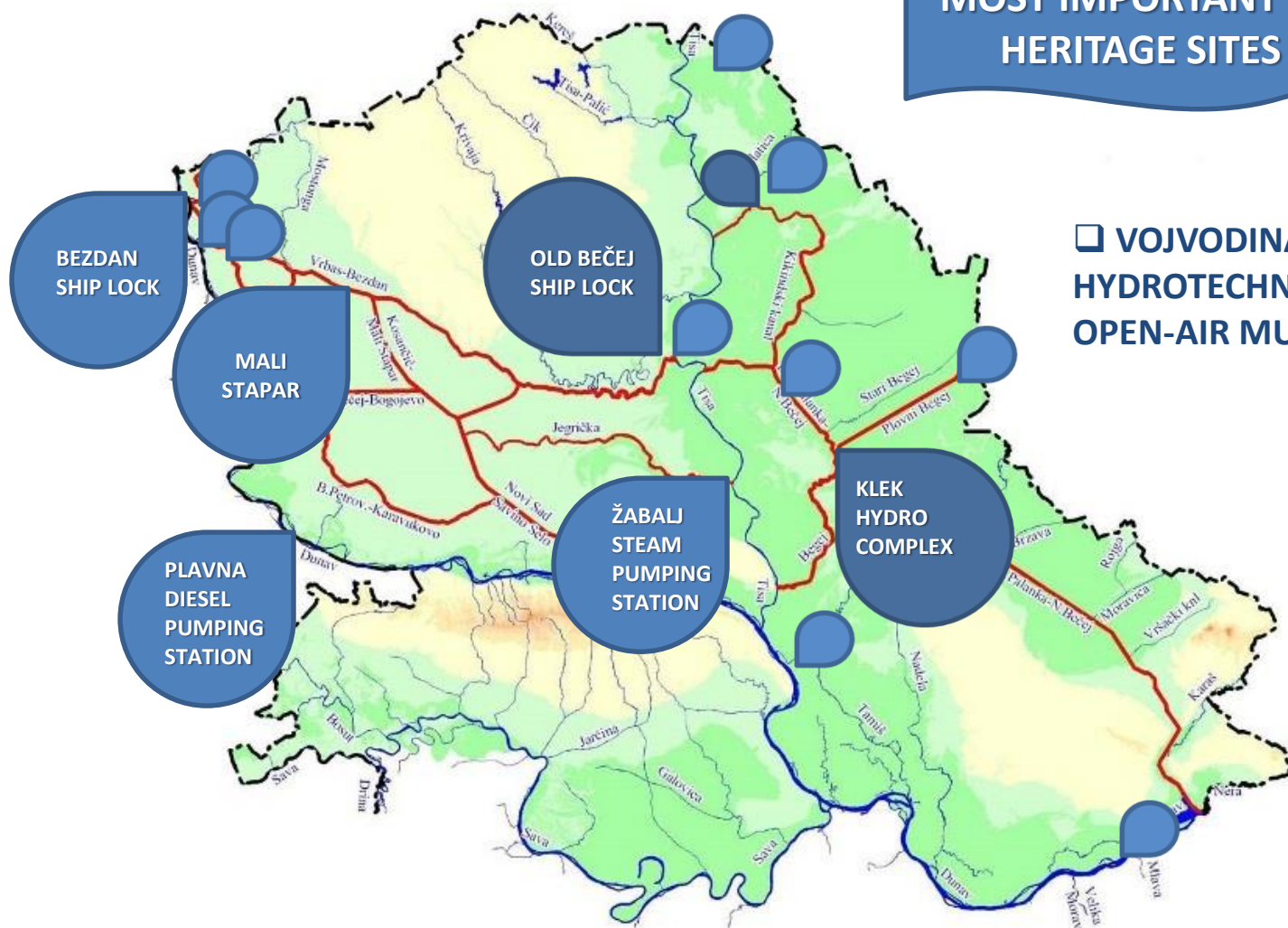


BRIEF HISTORY OF WATER MANAGEMENT CONDITIONS FROM 16th TO 21st CENTURY IN SERBIAN PROVINCE OF VOJVODINA



- FIRST WATER WORKS AT THE BEGINNING OF 18th CENTURY
- CONSTRUCTION OF THE GRAND BAČKA CANAL 1793 – 1802
- CONSTRUCTION OF THE DANUBE-TISA-DANUBE HYDRO SYSTEM 1957 - 1977

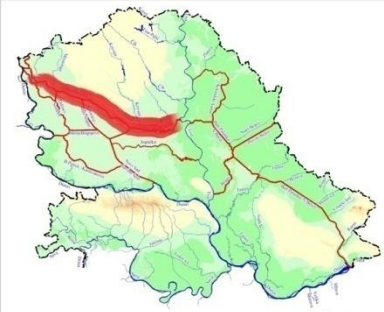
MOST IMPORTANT HYDROTECHNICAL HERITAGE SITES IN VOJVODINA



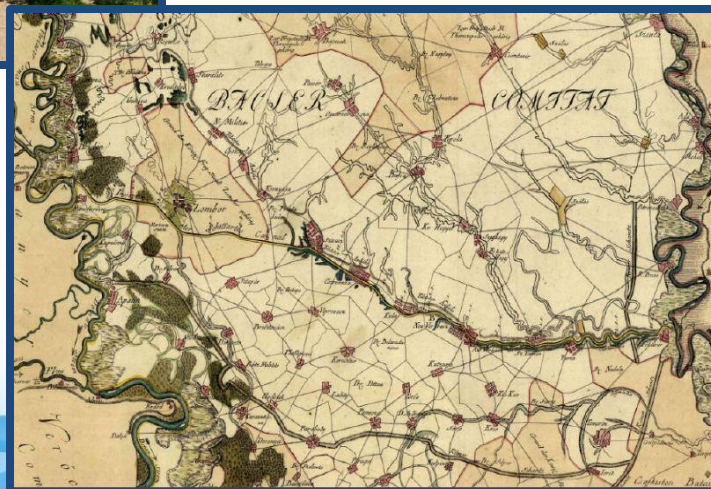
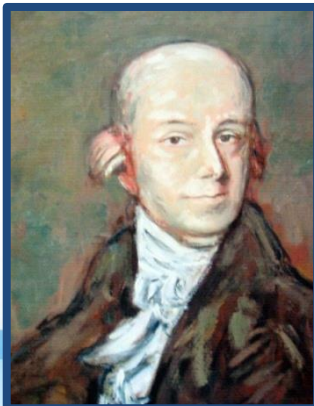
□ VOJVODINA CAN BE SEEN AS A HYDROTECHNICAL HERITAGE OPEN-AIR MUSEUM.

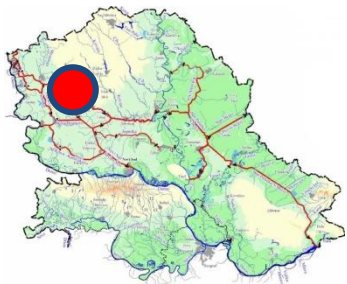
- TOTAL AREA OF 21.506 km²
- ABOUT 20.000 km OF THE ENTIRE CANAL NETWORK
- 600 km OF NAVIGABLE CANALS
- LARGE NUMBER OF SHIP LOCKS, SLUICES AND PUMPING STATIONS

GRAND BAČKA KANAL



- ❑ CONSTRUCTED FROM 1793 TO 1802
- ❑ PREDECESSOR OF DANUBE-TISA-DANUBE HS
- ❑ DESIGNED AND BUILT BY KISS BROTHERS
- ❑ IT SHORTENED THE WATERWAY FOR 158 km
- ❑ THE LARGEST NAVIGABLE CANAL IN EUROPE AT THAT TIME





MALI STAPAR SETTLEMENT

- IT WAS BUILT AS BASE FOR BUILDERS OF GRAND BAČKA CANAL
- OLD MILL FROM THE END OF 18th CENTURY AND RECONSTRUCTED IN 1848
- SLUICE AND SHIPLOCK FROM 1802
- TECHNICAL ADMINISTRATION BUILDING FROM 1898
- MONUMENT TO THE GODDESS OF FERTILITY PANNONIA



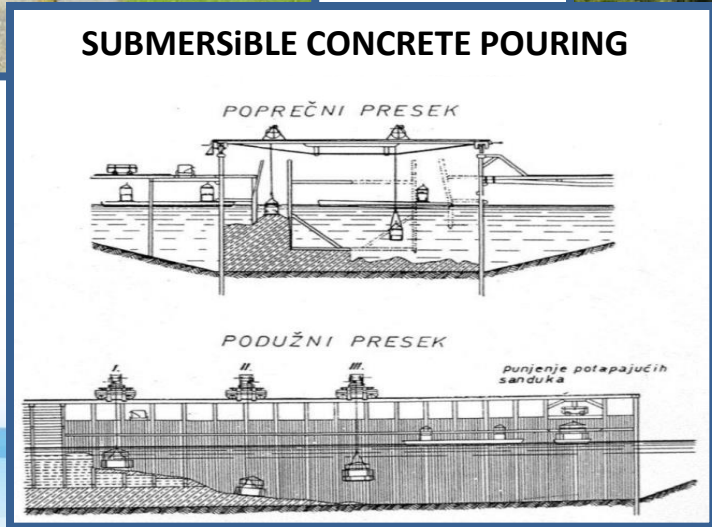
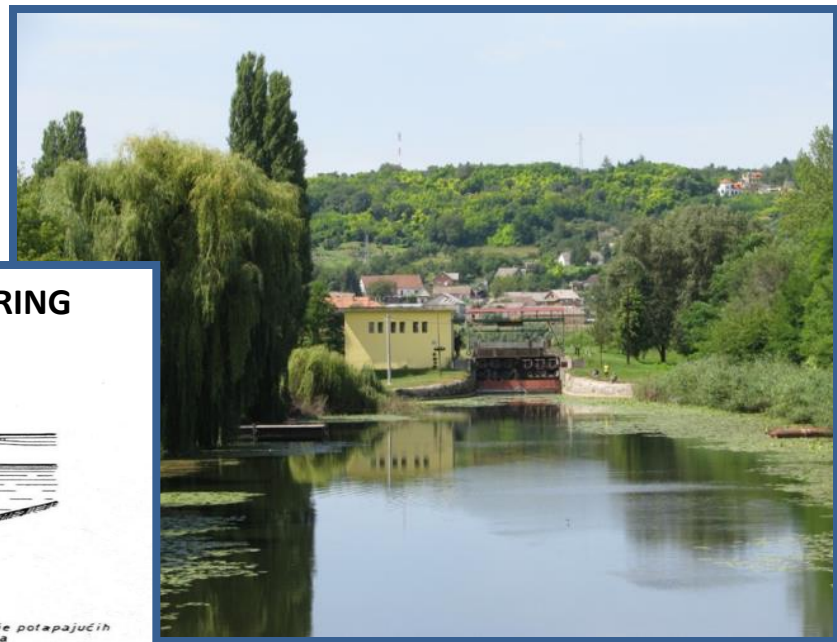


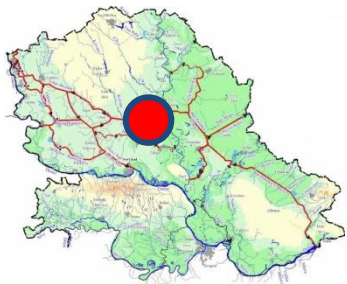
❑ THE FIRST STRUCTURE IN EUROPE WHICH WAS CONSTRUCTED BY MEANS OF SUBMERSIBLE CONCRETE POURING

BEZDAN SHIP LOCK



- CONSTRUCTED IN 1856 BY JOANES MIHALIK
- LOCATED AT THE CONFLUENCE OF VRBAS - BEZDAN CANAL AND DANUBE RIVER



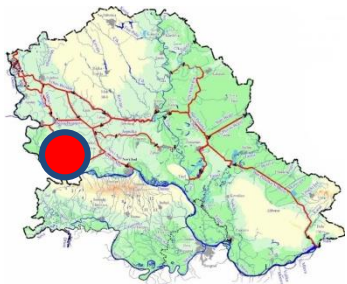


❑ THE FIRST SHIP LOCK IN EUROPE WHICH USED ITS OWN ELECTRICAL POWER IN ORDER TO RUN ITS ENGINE

OLD BEČEJ SHIP LOCK

- IT WAS BUILT FROM 1895 TO 1898 BY THE PROJECT DESIGN OF HEINZ ALBERT
- LOCATED AT THE CONFLUENCE OF GRAND BAČKA CANAL
- EXHIBITION WITH A DISPLAY OF THE ORIGINAL PARTS OF THE SHIP LOCK'S TURBINE PLANT WAS OPENED IN THE VICINITY OF THE SHIP LOCK IN 2011

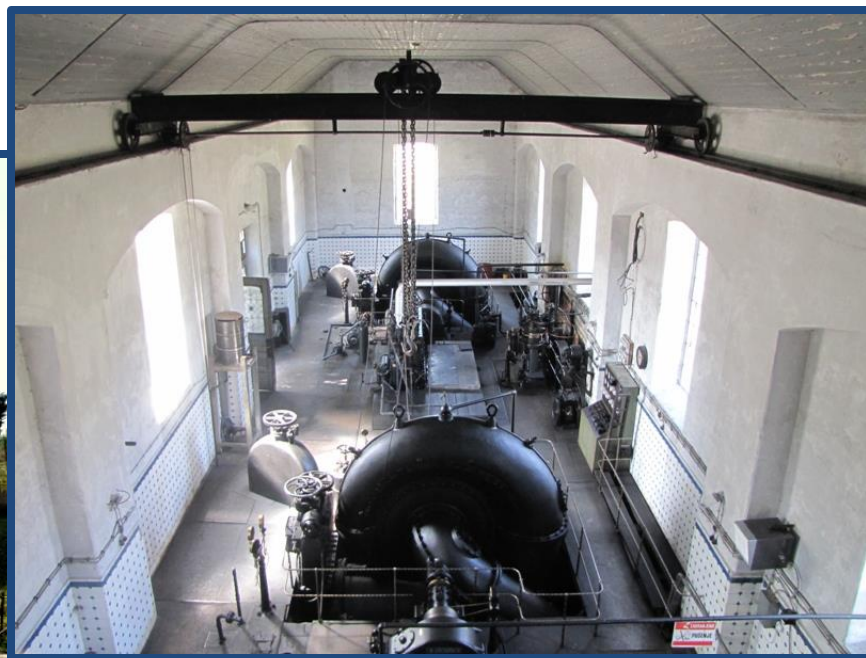




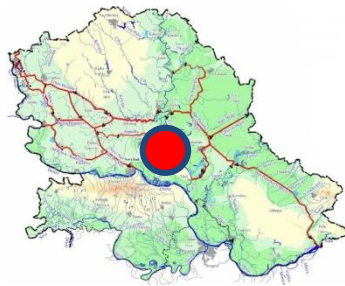
❑ IT WAS CONSIDERED AS ONE OF THE FIRST DIESEL PUMPS IN EUROPE WHEN THE STEAM PUMP WAS COMMONLY USED

PLAVNA DIESEL PUMPING STATION

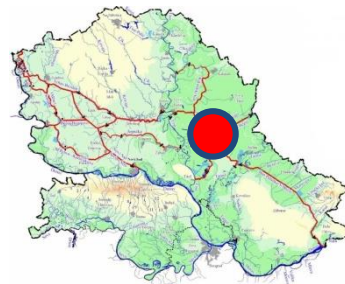
- IT WAS COMPLETED IN 1912 NEAR THE SETTLEMENT OF PLAVNA AT DANUBE RIVER LEFT BANK
- BUILT IN SECESSION STYLE
- IT HAD TWO ENGINES OF 300 HORSE POWER AND GANZ CENTRIFUGAL PUMPS WITH CAPACITY OF 2 X 2,5 m³/s, WHICH WAS VERY POWERFUL AT THAT TIME



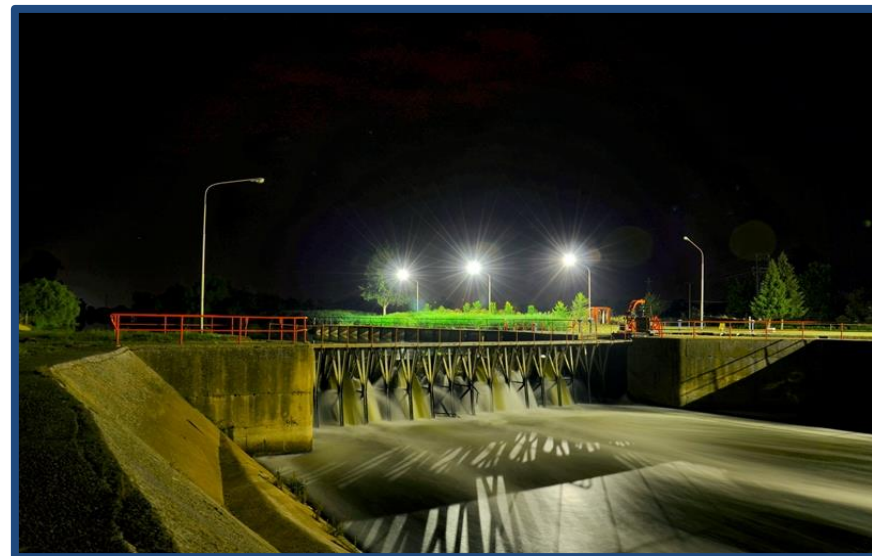
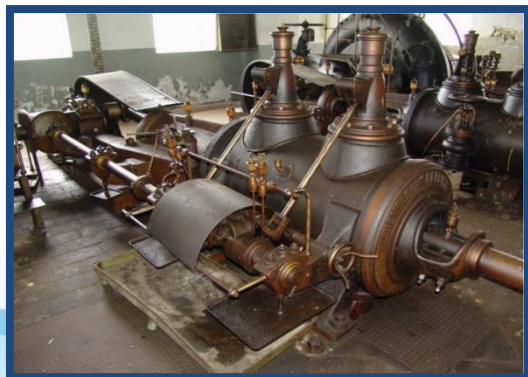
**ŽABALJ STEAM
PUMPING
STATION**



**KLEK HYDRO-
COMPLEX**



▪ **BUILT IN 1898**

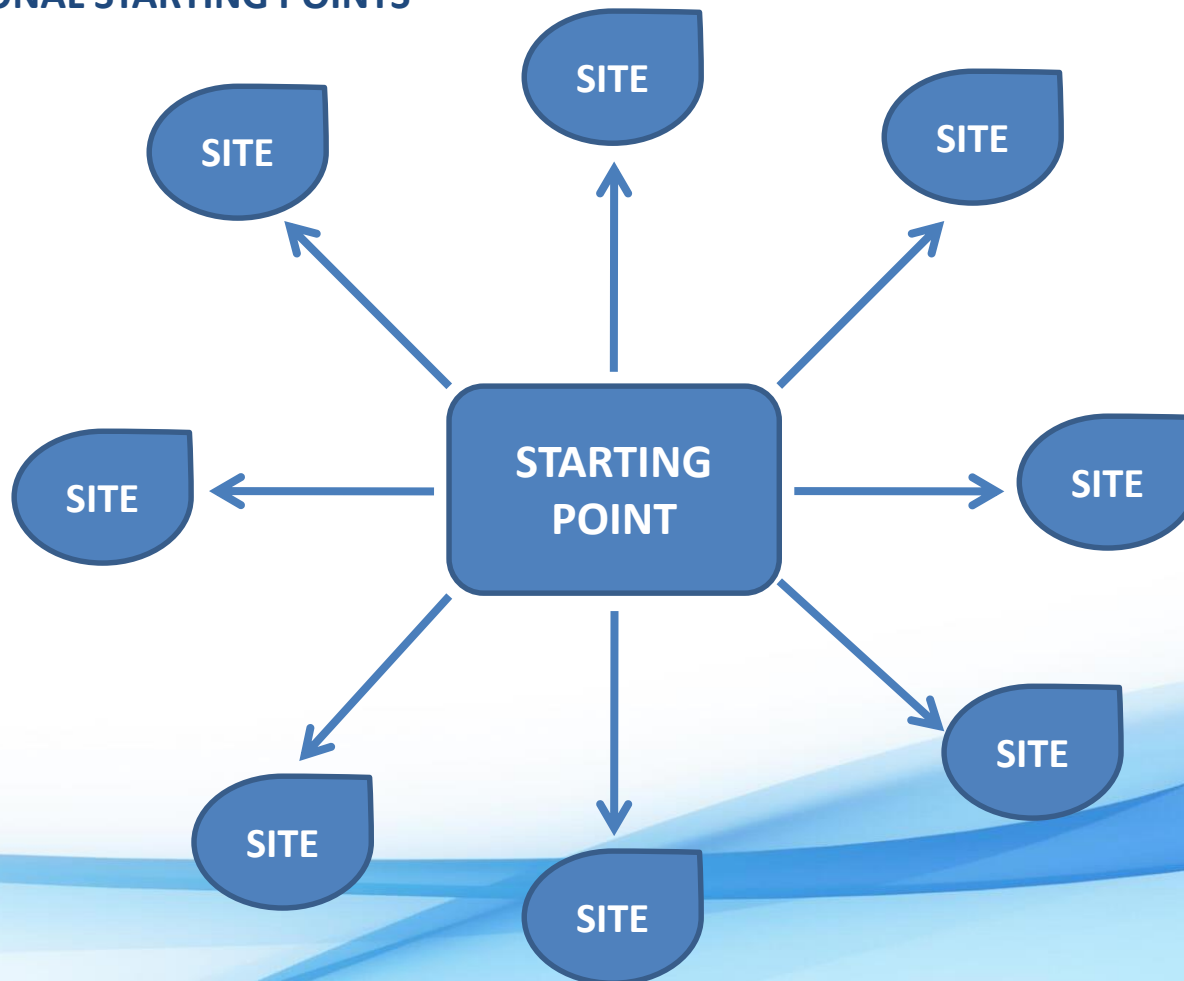


▪ **BUILT IN 1914**



ROUTE CONCEPT

- ❑ AN OPEN AIR MUSEUM INTERSECTED WITH WATER
- ❑ SITES ARE CONNECTED INTO THEMATIC TOURIST ROUTE
- ❑ STARTING POINT OF THE HYDROTECHNICAL ROUTE - WATER MANAGEMENT MUSEUM
- ❑ REGIONAL STARTING POINTS



❑ ROADS

❑ NAVIGABLE CANALS – 600 km

▪ NAVIGATION MUST BE IMPROVED ON CERTAIN SECTIONS

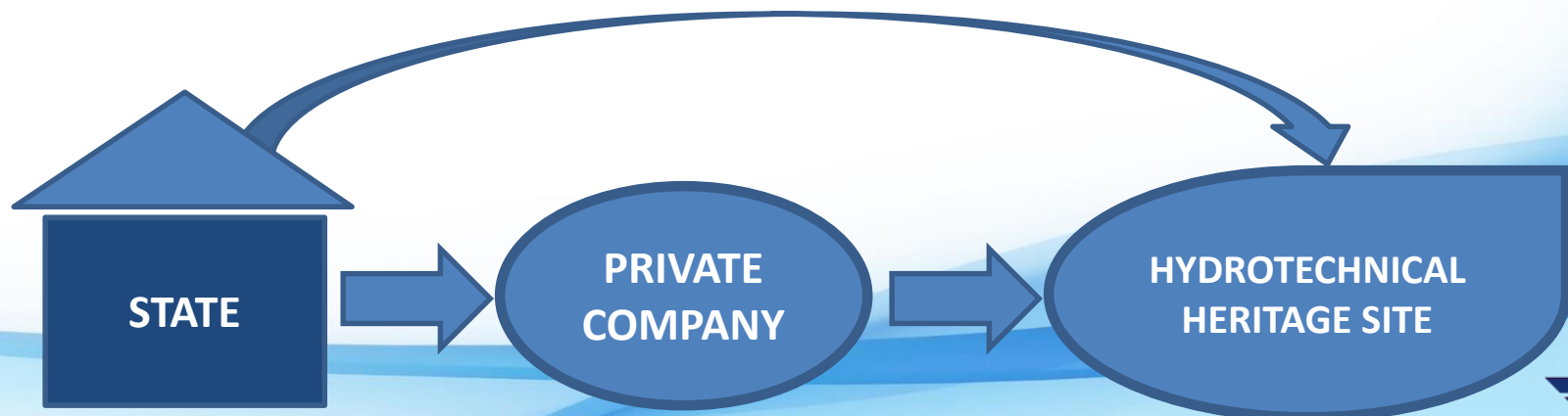
- SLUDGE REMOVAL
- SHIP LOCK REPAIR
- CONSTRUCTION OF MOORING FACILITIES
- SIGNALIZATION IMPROVEMENT



- ❑ **COOPERATION BETWEEN ALL RELEVANT STAKEHOLDERS**
 - **WATER MANAGEMENT COMPANIES**
 - **REGIONAL AND LOCAL AUTHORITIES**
 - **TOURISM ORGANIZATIONS**
 - **INSTITUTES FOR THE PROTECTION OF CULTURAL MONUMENTS**
 - **PRIVATE TOURISM COMPANIES**
 - **EUROPEAN INDUSTRIAL HERITAGE NETWORKS**
 - **OTHERS**

MANAGING THE ROUTE

- ❑ A PROPERTY MANAGED BY THE STATE
 - IT MUST BE IN ACCORDANCE WITH THEIR BASIC PURPOSE AS A PART OF THE WATER MANAGEMENT REGIME
- ❑ ACTIVATION OF THE PRIVATE SECTOR – PUBLIC PRIVATE PARTNERSHIP (PPP)
 - FUNDING FROM THE PRIVATE SECTOR WITH THE PUBLIC AUTHORITY MANAGING AT CENTRAL LEVEL
 - EACH HYDROTECHNICAL HERITAGE SITE COULD BE MANAGED BY A PRIVATE COMPANY - HIGHLY RESPECTING ITS ORIGINAL LOOK AND BASIC PURPOSE
- ❑ ENTIRE HYDROTECHNICAL HERITAGE ROUTE OF VOJVODINA MUST BE MANAGED BY A PUBLIC BODY



**STARTING
POINT**

**IMPACT ON LOCAL
COMMUNITIES**

ROUTE

SITE

**LOCAL
COMMUNITY**

- **A NEW TOURISM PRODUCT**
- **PROMOTION OF TOURISM AND CRAFTSMANSHIP**
- **IMPACT ON IMPROVEMENT OF HOTEL AND RESTAURANT OFFERS**
- **REVIVAL OF HISTORY FOR A BETTER TOMORROW**
- **COMMUNITY INVOLVEMENT IN PROMOTION OF HYDROTECHNICAL HERITAGE SITES AND THE ROUTE IN GENERAL**

CRAFTSMANSHIP



DRIVING FORCE

- **CONNECTING WITH VISITORS THROUGH CANAL AND ROAD NETWORK**
- **DEVELOPMENT OF COMPLEMENTARY TOURISM PRODUCTS**
- **TOURISM INFRASTRUCTURE DEVELOPMENT**
- **STRENGTHENING THE CULTURAL IDENTITY**
- **CELEBRATING HYDROTECHNICAL HERITAGE THROUGH THE EVENTS**
- **STRENGTHENING THE ROUTE**

IMPORTANCE - AWARENESS

- THREE CENTURIES OF VALUABLE EXPERIENCE IN WATER MANAGEMENT – DRIVING FORCE**
- IT IS NECESSARY TO RAISE AWARENESS OF WATER MANAGEMENT THROUGH EDUCATION**
- HYDROTECHNICAL HERITAGE ROUTE IN VOJVODINA HAS A GREAT TOURISM POTENTIAL**
- COULD IMPROVE ECONOMIC AND DEMOGRAPHIC CONDITIONS**
- DRIVING FORCE FOR TOURISM DEVELOPMENT IN LOCAL COMMUNITIES**
- RAISING AWARENESS OF IMPORTANCE OF THE ENTIRE CANAL NETWORK**

**THANK YOU FOR YOUR
ATTENTION**

