

# XIVth Polish Hydropower Conference **HYDROFORUM 2025**

Rytno, „Perła Południa” Hotel / EW Rożnów, 7-9 October 2025



## BULLETIN NO 2

### Conference programme and other information

#### Organisers

**Towarzystwo Elektrowni Wodnych**



iha affiliate  
member

**Polish Hydropower Association**



**Szewalski  
Institute of Fluid-Flow Machinery  
of Polish Academy of Sciences**



**Polish Association  
of Small Hydropower Development**



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**Cracow University  
of Technology  
80th Anniversary**



**Tauron Polska Energia SA**

#### *Ladies and Gentlemen, dear Colleagues!*

There is not much time left until the start of our this year conference debates. We are pleased to announce that the number of registered participants of HYDROFORUM 2025 has already exceeded 110. Among the delegates there are 15 people from abroad – Austria, Czech Republic, Norway, Slovenia, Ukraine as well as China. The conference promises again to be extremely busy. In addition to 34 paper presentations, we have two one-and-a-half-hour debates, on topics related pumped storage and water management issues. Climate change and energy transformation problems will appear in the background of the debates.

The conference will be hosted by the “Perła Południa” (*Pearl of the South*) three star hotel located in the picturesque Rożnówka Valley in Rytno – a well-known Polish tourist resort in Beskid Sądecki mountain range. The conference venue was selected in view of the planned study visit to Rożnów Hydropower Plant and the boat cruise on the Rożnów Lake. The basic contact details of the hotel are as follows:

Rytno 380, 33-343 Rytno, phone.: +48 18 446 90 31; 33

The conference venue can be most easily accessed by car. Depending on the time of day and road conditions, the car travel from Cracow takes 2 to 3 hours. The railway journey takes 3 to 3.5 hours. Taking the „Szwagropol” bus line at the Cracow – Nowy Sącz route (typically: 2 h 15 min) and the „Marpol” line at the Nowy Sącz – Rytno route (ca. 35 min) may appear a more convenient option. Much more detailed information on the available transfer options are to be found at the further pages of this bulletin.

The conference will start with inaugural addresses delivered by representatives of all co-organisers and end with an introductory presentation on Rożnów HPP. As in the previous year, 9 substantive sessions are envisaged. The average time of 20 minutes has been allocated for each speech, which includes also the time for the chairman of the session and a short discussion. Therefore there will be no more than 12 to 15 minutes left for the speaker. The speakers are kindly asked to maintain time discipline, as we do not want to exceed the foreseen deadline of the debate. The organizers will be obliged for providing them with their presentation files as early as possible - by e-mail (address: [steller@imp.gda.pl](mailto:steller@imp.gda.pl)) or on a data carrier, during breaks. Due to simultaneous interpretation provided, please speak clearly into the microphone and avoid rushing

The conference will be preceded by the National Assembly of Polish Hydropower Association (TEW) at the same site on October 6<sup>th</sup>. The Assembly will be concluded with TEW reception. The reception is free of charge for Assembly delegates and TEW guests. HYDROFORUM delegates from outside this group will be able join the reception after having reported their desire at the Conference Application Form or direct contacting the Organising Committee.

Conference Proceedings (abstracts and mini-papers) will be handed over to the delegates at the registration desk in the printed or electronic form (flash disk). After the conference they will be spread from the TEW website. Spreading the presentations (in pdf version) will take place after consulting the authors.

The off-site session (study tour) will be organized and proceeded on October 9<sup>th</sup> following the rules and schedule described in the further part of this bulletin...



## 9:00 Welcome addresses and opening of the Conference („Perła Południa” Hotel)

### Opening Session

Session chaired by: **Janusz Steller** (IMP PAN/TEW), Chairman of the Conference Organising Committee

- 9:00 **J.Steller** (IMP PAN/TEW); **E.Malicka** (TRMEW): Welcome address and announcements from the Organising Committee as well as TEW and TRMEW associations
- 9:15 **Representative of TAURON Capital Group** - Welcome address from TAURON Group
- 9:20 **M.Lackowski** (IMP PAN): Welcome address from IMP PAN and opening of the conference
- 9:25 **M. Sulowicz** (PK/TEW): Welcome address from the Cracow University of Technology
- 9:30 **Z.Paruch** (TAURON Ekoserwis): Introductory word on Rożnów HPP

## 10:00 Coffee break

### Session I: Pumped storage hydropower projects

Session chaired by: **Janusz Łobacz** (PGE EO SA, O/ EW Żarnowiec)

- 10:20 **H.O.Nyland** (Norconsult): *Pumped Storage Hydro: Governing Strength for New Renewables*
- 10:40 **M. Kubecki** (IOZE): *Design and technological trends in the pumped storage sector* (PL)
- 11:00 **J. Kirejczyk** (consulting engineer): *Variable speed pump-turbine selection* (PL)
- 11:20 **V. Ryzhyi** (Ukrhydroproject, Kharkiv):  
*Peculiarities of the operation of PSPs on the run-of-the-river reservoirs*
- 11:40 **A. Obrębska** (Energoprojekt Warszawa):  
*Investment process of a pumped storage power plant erection in Poland* (PL)

## 12:00 Coffee break

### Debate I "Hydropower sector for the national electrical power system regulation and safety under the energy transformation conditions"

Debate chaired by: **Michał Lis** (Energetyka Wodna), **Janusz Steller** (TEW).

- 12:30 **Opening of the Debate** (M.Lis, J.Steller)

## 14:00 Lunch break

### Session III: Hydropower digitalisation and market analyses

Session chaired by: **Arkadiusz Czarnecki** (ZEW Niedzica SA)

- 15:00 **W.Taras** (Emerson): *Emerson capability for Hydro Power Plant*
- 15:20 **D.Chowański**, **Z.Shavlovich**, **J.Fonseca Blanco** (Emerson): *Stress Decreasing at Water Turbine in AGC*
- 15:40 **A.Machalski** (Wroclaw University of Technology): *D-Hydroflex. Digital solutions for improving the sustainability performance and FLEXibility potential of HYDROpower assets. Current work status and development of the digital hydraulic unit twin* (PL).
- 16:00 **S.Iwaniec**, (Hekla Energy): *Maximising profits in the era of negative energy prices* (PL)

## 16:20 Coffee break

### Session IV: Small hydropower - available potential, rehabilitation projects, capacity building

Session chaired by: **Janusz Plutecki** (prof. em., Wroclaw University of Technology)

- 16:40 **Ł.Kalina** (IOZE): *Capacity development potential in the hydropower sector* (PL)
- 17:00 **J.Świdorski** (SEng.), **Y.J.Liu** (Forward HPE): *Kaplan turbine upgrade – case study*
- 17:20 **M.Kaniecki** (TG DNALOP):  
*The process of a small hydropower plant rehabilitation - from an idea to implementation* (PL)
- 17:40 **E.Malicka** (TRMEW): *SHP repowering: development and erection of a new hydropower plant in place of the dismantled installation* (PL)
- 18:00 **M.Piękoś** (MPEC Kraków): *Hydraulic energy recovery plant in the heating network of the MPEC Cracow municipal heating utility. Construction proces I* (PL)
- 18:20 **M.Lis** („Energetyka Wodna”): *The Branch Skill Centre and professional qualifications in the hydropower field of the electric power sector - presentation and the current status of the project* (PL)

## 18:40 Closing of the 1<sup>st</sup> day debates

## 20:00 Conference reception („Perła Południa” Hotel)

**08:00 Welcome addresses and opening of the debates („Perła Południa” Hotel)****Session V: Hydraulic civil engineering infrastructure**Session chaired by: **Michał Krzyszkowski** (ZEW Niedzica SA.)

- 08:00** **Z.Kowalski** (Mineral and Energy Economy Research Institute, Pol.Ac.Sci):  
*Nysa Kłodzka Cascade - the concept of retention restoration and economic use of bottom deposits* (PL)
- 08:20** **A.Polniak** (AQUA Tech): *Inflatable weirs in retention schemes* (PL)
- 08:40** **K.Trojanowska** (TEW): *Technical condition monitoring of hydraulic civil engineering structures and the operational practice. How the inspection protocols reflect in the technical condition improvement* (PL)
- 09:00** **W.Kosoń** (INORA): *Effective protection of hydraulic civil engineering structure bottom and slopes - counter-erosive safeguards* (PL)
- 09:20** **R.Masek** (Belse): *Overhaul and protection of hydraulic civil engineering infrastructure* (PL)
- 09:40** **L.Opyrchal** (WAT): *Construction at a flood area - study case* (PL)

**10:00 Coffee break****Debate II "Hydropower and water management in response to the climate crisis and other challenges"**Debate chaired by: **B. Kuba Puchowski** (Piła Młyn / TRMEW)

- 10:30** **Opening of the Debate** (B.K.Puchowski)

**12:00 Coffee break****Session VII: Flow systems of hydraulic turbines and reversible machines**Session chaired by: **Maciej Kaniecki** (IMP PAN.)

- 12:30** **Y.Bykov, O.Khoryev, A.Panov** (IPMS NASU):  
*Design and investigation of pump-turbine models for heads of 80-500 m*
- 12:50** **Z.Krzemianowski, J.Steller, M.Kaniecki** (IMP PAN):  
*A high specific speed Kaplan tubular turbine to be run under the lowest heads* (PL)
- 13:10** **J.Świderski** (SEng.): *Modernization of water turbine flow passages* (PL)
- 13:30** **A.Chernobrova, O. Moloshnyi, P.Szulc** (Wrocław University of Science and Technology):  
*Spiral case modification as means to improve efficiency of a pump running in turbine regime* (PL)

**14:00 Lunch break****Session VIII: Generation systems in hydropower plants**Session chaired by: **Maciej Sułowicz** (WIEiK, Politechnika Krakowska.)

- 15:00** **D.Borkowski** (PK Faculty of Electrical and Computer Engineering):  
*Generation systems for the run-of-the-river low head small hydropower plants* (PL)
- 15:20** **P.Kisielewski** (Kisielewski): *High efficiency permanent magnet synchronous generators* (PL)
- 15:40** **I. Zaitsev, A.Levytskyi** (Inst. Electrodynamics, NASU), **V.Rassovskyi, P.Torzhevskyi** (Ukrhydroenergo):  
*Stator bar damage in hydro-generators slot: causes and detection techniques*

**16:00 Coffee break****Session IX: Selected operational problems of hydraulic units**Session chaired by: **Grzegorz Żywica** (IMP PAN)

- 16:30** **M.Kaniecki, M.Hajdarowicz, B.Ośmiałowski** (TG DNALOP): *Water lubricated - a story on emergence of the product and current bearing systems with Thordon Bearings trade mark* (PL)
- 16:50** **J.Przydatek** (PFTechnology): *Water filtration in hydropower engineering* (PL)
- 17:10** **A.Chlapek** (T.i.S. Polska): *T.I.S regulatory fittings: energy recovery applications in water networks* (PL)
- 17:30** **W.Janicki** (IMP PAN): *Measurement of hydraulic turbine absolute vibrations - selected problems* (PL)
- 17:50** **P. Ševčík** (OSC): *Unit operation optimisation using combined method efficiency/vibration*

**18:10 Closing of the Conference. Information from the Organising Committee****19:30 Joint Dinner ( „Perła Południa” Hotel)**

	Programme	GPS directions for the drivers
08:30	Departure from the "Perła Południa" hotel	
10:00	Group I: Study visit to Rożnów HPP and boat cruise on Rożnów Lake	Parking at the Rożnów HPP entrance: <a href="https://maps.app.goo.gl/PKvMV2kaj9B87U1f7">https://maps.app.goo.gl/PKvMV2kaj9B87U1f7</a>
10:00	Group II: Boat cruise on Rożnów Lake and study visit to Rożnów HPP	Parking at the dam crown (in front of the boat harbour): <a href="https://maps.app.goo.gl/jekTVHtcXhu69nxD8">https://maps.app.goo.gl/jekTVHtcXhu69nxD8</a>
13:00	Transfer to "Łaziska" hotel in Czchów vicinity (including a stop at Tropsztyn castle)	Parking behind the Tropsztyn castle <a href="https://maps.app.goo.gl/UND1aEVpZTCts3hC9">https://maps.app.goo.gl/UND1aEVpZTCts3hC9</a>
14:00	Farewall lunch at "Łaziska" hotel and the end of the tour	<a href="https://maps.app.goo.gl/xPfC9w3NBmXBes146">https://maps.app.goo.gl/xPfC9w3NBmXBes146</a>
15:00	Transfer do main railway station in Cracow (minibus; up to 2 hours of driving time)	

## Abbreviations used

Forward HPE	- Forward Hydro Power Equipment Co., Ltd., China	PK	- Cracow University of Technology
IGSME PAN	- Mineral and Energy Economy Research Institute Polish Academy of Sciences, Cracow	PW	- Wrocław University of Science and Technology
IMP PAN	- Szwedzki Instytut Inżynierii i Techniki, Gdansk	SEng.	- Swiderski Engineering Inc., Ottawa
IPMS NASU	- Podhimy Institute of Power Machines and Systems, NASU, Kharkiv	TEW	- Polish Hydropower Association
MPEC	- Municipal Heat Power Utility	TRMEW	- Polish Association for Small Hydropower Development
NASU	- National Academy of Sciences of Ukraine	WAT	- Military Academy of Technology, Warsaw
		WIEiK PK	- PK Faculty of Electrical and Computer Engineering
		WME PW	- PW Faculty of Mechanical and Power Engineering

The study tour will include the technical visit to the Rożnów HPP, a boat cruise on the Rożnów Lake and the farewell lunch at „Łaziska” hotel in Czchów. The tour is available for all delegates having already declared their interest at the conference registration form or who will declare it at the Conference Registration Desk on the first day of the event. On the same day all the study tour participants are obliged to provide the serial number of their identity document. The study tour fee is 80 PLN.

The study tour participants will travel with a bus hired by the HYDROFORUM organiser and by their own cars. The places in the bus can be booked by completing the logistic inquiry form.

## LOGISTICS

The conference venue can be reached most easily by car. The contemporary car navigation systems offer an invaluable assistance in this respect. For delegates arriving from most frequent directions the obvious reference line will be probably the A4 highway. Nowy Sącz and Ryto can be easily reached from there by turning to #75 voivodship road at Brzesko road junction. When driving from Cracow you can also select a shorter but much more winding route via Limanowa. Depending on the time of day and road conditions the car travel from Cracow Main Railway Station to „Perła Południa” Hotel in Ryto may take 2 to 3 hours.

Those using the public transport means will reach easily Cracow Main Railway Station both from Cracow Airport in Balice and from numerous large cities in Poland and Europe by train. Further railway trip to Ryto will take 3 (direct connection) up to 3.5 hours (connection with train change in Tarnów). Please note that Ryto is located on the railway route to Krynica - one of the most famous Polish spas. Therefore some of these connections lead directly from/to the more distant large cities, such as Warsaw and Gdansk.

Nevertheless, in view of the connection frequency, taking the „Szwagropol” bus line at the Cracow – Nowy Sącz route (2 h 15 min in average) and „Marpol” line at the Nowy Sącz – Ryto route (direction: Łomnica and Piwniczna) may appear a more convenient choice.

The technical visit will be conducted in two groups. Group I will start the visit from the power plant whereas group II – from the boat cruise on the Rożnów Lake. The delegates using the HYDROFORUM bus will travel with group II. The final decision on the study tour division into groups will be taken by the organiser. The following rules should be adhered.

- The study visit participants are not authorised to filming as well as, taking photos or sketches (except sites and shots indicated by the group guide),
- Bringing any hand baggage (bags, backpacks etc) at the power plant territory is strictly prohibited — there is no possibility to store them in the guard-house or any other sites at the utility.

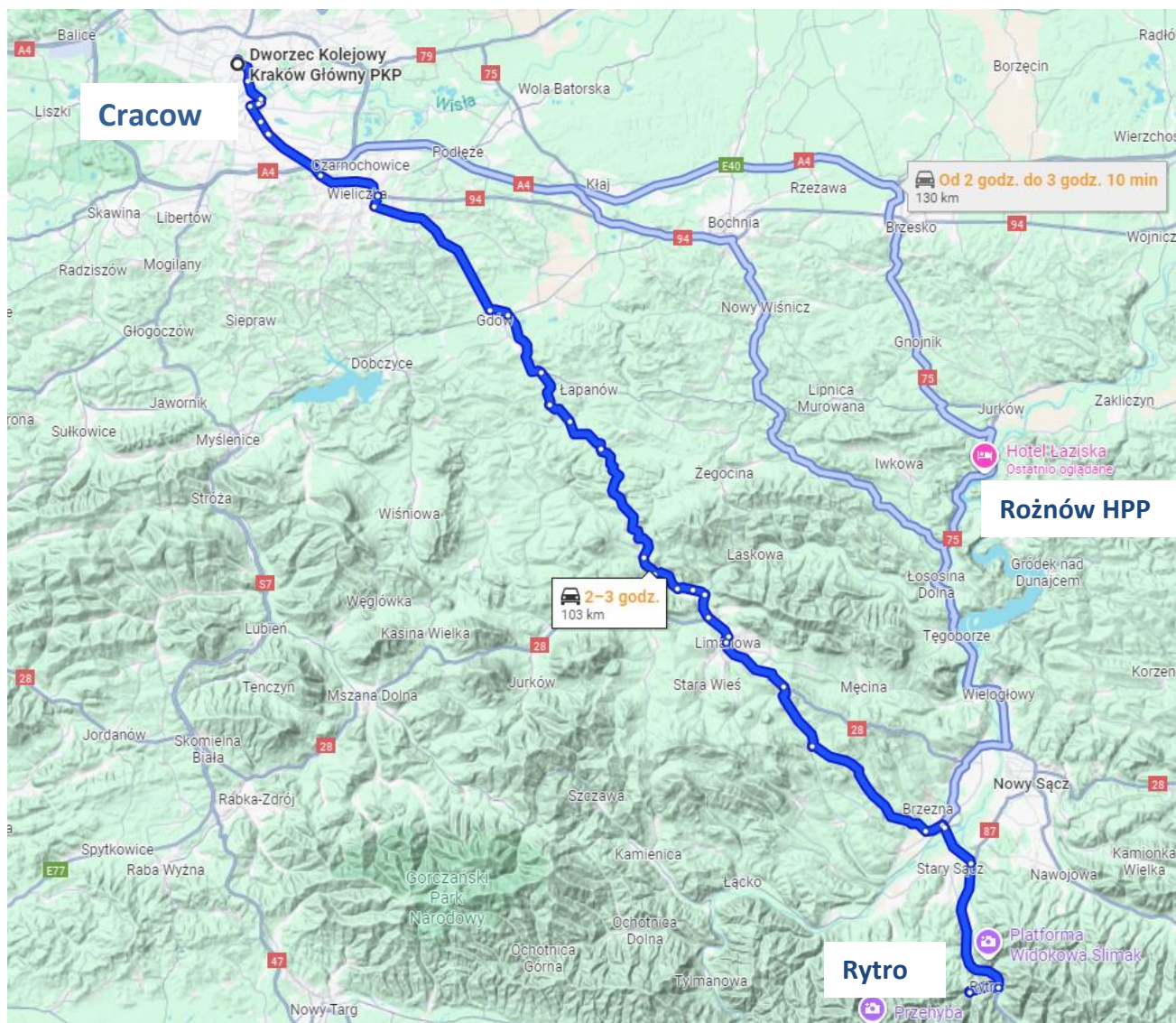
The MDA<sup>1</sup> Bus Station in Cracow is integrated with Cracow Main Railway Station which greatly facilitates changing between buses and trains. On the other side the MDA Bus Station in Nowy Sącz is used both by „Szwagropol” and „Marpol” buses. The „Marpol” buses pass through Ryto on their way to Piwniczna or Łomnica. Some of them go into the Rożnów Valley up to the „Ryterski Raj” (Ryto Paradise) bus stop, situated opposite to the „Perła Południa” hotel. The other buses stop in the centre of Ryto, near the railway station. The detailed timetable available from <https://marpol-bus.com.pl/rozkład-jazdy> website.

After receiving the necessary e-mail information (filled logistic inquiry form) the organisers will provide for car transfer from Ryto railway station to the „Perła Południa” hotel. Please, do not hesitate to contact us directly via phone number +48 608 19 71 85 if you need any further assistance.

The extract of the railway and bus time tables proves that the HYDROFORUM delegates coming by public transport means should encounter no major problem with finding a convenient return connection no matter whether they join the study tour to Rożnów or not. The delegates interested in making use of the HYDROFORUM bus transfer to Cracow for this purpose should express their wish by appropriate filling the logistic inquiry form.

<sup>1</sup> Little Poland Bus Stations





Alternative car routes from Cracow to Rytro (Google Maps)



Ryto map with marked bus stops (seznam.cz a.s. maps)

## Railway connections

### Connections with Balice Airport

Balice Airport – Cracow Main Railway Station	Cracow Main Railway Station - Balice Airport
24 h a day; travel duration: 17 minutes	24 h a day; travel duration: 18 minutes
<b>departures</b>	<b>departures</b>
between 6:17 and 22:17 - every 30 minutes	between 5:36 and 21:36 - every 30 minutes
between 22:17 and 6:17 - every 60 minutes	between 21:36 and 5:36 - every 60 minutes

### Selected connections at the Cracow – Rytro route

Kraków	d.	07:48	08:39	12:28	14:38	16:54
Tarnów	a.	08:45	09:45	13:34	15:20	17:51
Tarnów	d.	08:50	09:47	13:36	15:55	17:57
Rytro	a.	10:42	11:37	15:33	18:14	20:13

### Selected connections at the Rytro – Cracow route

Rytro	d.	06:06	07:12	10:04	12:33	14:00	15:14	16:35	18:40
Tarnów	a.	08:06	09:36	12:10	14:18	16:11	17:16	18:22	20:36
Tarnów	d.	08:10	10:06	12:19	14:20	16:23	17:29	18:24	20:39
Kraków	a.	09:06	10:49	13:37	15:25	17:40	18:27	19:41	21:46

### Selected evening connections from Cracow to some large cities in Poland

Kraków	d.	17:52	18:54	19:56	20:17	21:09
Warszawa	a.	20:20	21:20	22:22	22:56	23:51

Kraków	d.	17:52	19:53	21:48
Gdańsk	a.	23:03	04:53	06:01

Kraków	d.	17:55	18:23	18:57	19:20	20:27	20:55	21:41
Katowice	a.	18:47	19:43	20:06	20:36	21:27	22:07	23:04

Kraków	d.	17:55	18:57	19:53
Wrocław	a.	21:05	22:27	23:13
Wrocław	d.	21:31		
Jelenia Góra	a.	23:47		

Notice: The blue background denotes direct connections

*Media patronage and editorial collaboration*



### Bus connections (Szwagropól)

Kraków	Nowy Sącz	Nowy Sącz	Kraków
06:05	08:20	06:25	08:40
06:35	08:50	07:00	09:15
07:25	09:40	07:30	09:45
08:50	11:05	08:30	10:45
09:50	12:05	09:15	11:30
10:50	13:05	10:10	12:25
11:15	13:30	11:00	13:15
12:25	14:40	12:40	14:55
12:50	15:05	13:30	15:45
13:35	15:50	14:40	16:55
14:40	16:55	15:10	17:25
15:15	17:30	15:35	17:50
15:45	18:00	16:35	18:50
16:55	19:10	18:10	20:25
17:45	20:00	19:15	21:30
18:45	21:00		
19:25	21:40		
21:00	23:15		

### Bus connections (Marpol)

Nowy Sącz	Rytro	Rytro	Nowy Sącz
07:00	07:38	05:38	06:14
07:30	08:04	05:43	06:19
08:25	09:00	06:02	06:35
08:50	09:24	06:48	07:24
09:25	09:59	08:13	08:49
10:00	10:35	09:12	09:45
11:20	11:58	10:02	10:35
10:50	11:24	10:33	11:10
11:50	12:24	10:52	11:25
12:45	13:19	11:27	12:00
13:40	14:18	12:28	13:04
14:05	14:39	13:28	14:04
14:20	14:58	14:18	15:33
15:35	16:10	14:52	15:25
16:40	17:13	15:33	16:10
17:40	18:15	16:03	16:39
18:30	19:05	17:20	18:03
19:25	20:05	18:08	18:44
20:50	21:24	20:15	20:48

Notice: The red colour denotes the trips to/from the „Ryterski Raj” bus stop, opposite the „Perła Południa” hotel. The black colour denotes trips to/from the bus stop at Rytro railway station.

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# HYDROFORUM 2025 STUDY TOUR

