



Erasmus+ (ERASMUS+)
Call: ERASMUS-SPORT-2024
Project: 101183703 — IN YOUTH FOOTBALL

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OUTPUT: RERPORT MEETING IN PRAGE

September 2025

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1. Location and participants

The meeting in Prague took place from September 2, 2025, to September 4, 2025. The locations were the Faculty of Physical Education and Sports (<http://ftvs.cuni.cz/FTVSEN-1.html>) and the SK Slavia Prague training center (<https://www.slavia.cz/klub-fortuna-arena>). Members of different partners involved in the meeting (Table 1).

Table 1. Participants were presented at the Prague meeting.

Name	Institution
Diogo V. Martinho	University of Coimbra
Catarina Amorim	University of Coimbra
José Humberto Fernandes	Madeira Football Association
Wojciech Paško	Rzeszów University
Maciej Śliż	Rzeszów University
František Zahálka	Charles University
Tomáš Malý	Charles University
Kalata Maroš	Charles University

2. Description of activities

The activities that composed the program were divided into two different moments:

- a) This activity was performed at the Faculty of Physical Education and Sports where the participants debated some concepts related to the project and also discussed physical evaluations that could confirm that young people are widely variable in terms of physical performance (e.g. aerobic capacity, jumping performance, strength, power). **These evaluations are central for the comprehension of impact about bio-banding tournaments.** At the end of the meeting, a discussion among the partners helped to optimize several concepts for the bio-banding events

planned for the following days. On **attachment 1**, we present evidence about the evaluations discussed on the first day of the meeting (02/09/2025).

b) The subsequent days were divided into two different phases: a theoretical session and the application of bio-banding model in a football club. The theoretical session aims to present scientific evidence about the importance of biological maturation assessment in context of young athletes. Three oral presentations were performed with the following titles:

- Biobanding application procedures;
- Biobanding training concept;
- Nutrition in youth athletes.

At the end of the presentations, a discussion highlighted important methodological considerations for the implementation of bio-banding tournaments. We also provided evidence related to the presentations conducted at the SK Slavia Prague training center (**see Attachment 2**).

Based on the previous meeting (a detailed explanation of each meeting will be included in the mid-report), the biological maturation of young football players (under-14 and under-15 years old) was assessed using the Khamis-Roche method (Khamis & Roche, 1994). Briefly, this protocol estimates predicted adult height based on the player's chronological age, current height and weight, and midparent height (Khamis & Roche, 1994). The current height of each player was expressed as a percentage of their predicted adult height at the time of observation. To ensure that players were organized according to their biological maturation, maturity bands were created based on previous research conducted in Premier League soccer academies (Cumming et al., 2018; Malina et al., 2019; Towlson et al., 2021). Using the predicted adult height percentage, players were grouped into four categories: group 1 (< 85%), group 2 ($\geq 85\%$ and < 90%), group 3 ($\geq 90\%$ and < 95%), group 4 ($\geq 95\%$). A Microsoft Excel[®] sheet was created, and the data was registered for each player.

The training sessions were developed for each biological maturation group and consisted of two parts: physical capacity development and small-sided games. Both parts were customized based on the specific characteristics of each maturational group. **Attachment 3** offers evidence regarding the bio-banding events.

3. Conclusion

At the end of the sessions, each partner shared their thoughts on the events, and the next steps for the project were defined as follows:

- Develop a set of training sessions tailored to different age and maturation groups.
- Formulate important questions for questionnaires to understand young football players' perceptions regarding the implementation of bio-banding tournaments.
- Explore the possibility of conducting focus groups to gain insights into athletes' perceptions.
- Consider including perceptual outcomes in future tournaments.

4. References

Cumming, S. P., Brown, D. J., Mitchell, S., Bunce, J., Hunt, D., Hedges, C., Crane, G., Gross, A., Scott, S., Franklin, E., Breakspear, D., Dennison, L., White, P., Cain, A., Eisenmann, J. C., & Malina, R. M. (2018). Premier League academy soccer players' experiences of competing in a tournament bio-banded for biological maturation. *Journal of Sports Sciences*, *36*(7), 757–765. <https://doi.org/10.1080/02640414.2017.1340656>


Khamis, H. J., & Roche, A. F. (1994). Predicting adult stature without using skeletal age: The Khamis-Roche method. *Pediatrics*, *94*, 504–507 (erratum in *Pediatrics*, *95*, 457 [1995] for the corrected version of the tables).

Malina, R. M., Cumming, S. P., Rogol, A. D., Coelho-E-Silva, M. J., Figueiredo, A. J., Konarski, J. M., & Kozieł, S. M. (2019). Bio-Banding in Youth Sports: Background, Concept, and Application. *Sports Medicine*, *49*(11), 1671–1685. <https://doi.org/10.1007/s40279-019-01166-x>

Towlson, C., Abt, G., Barrett, S., Cumming, S., Hunter, F., Hamilton, A., Lowthorpe, A., Goncalves, B., Corsie, M., & Swinton, P. (2021). The effect of bio-banding on academy soccer player passing networks: Implications of relative pitch size. *PloS One*, *16*(12), e0260867. <https://doi.org/10.1371/journal.pone.0260867>

5. Attachments

5.1. Attachment 1

Photo	Description
	<p>Meeting 1 at the Faculty of Physical Education and Sports.</p>



Meeting 1 at the Faculty of Physical Education and Sports.



Meeting 1 at the Faculty of Physical Education and Sports – physical assessment.

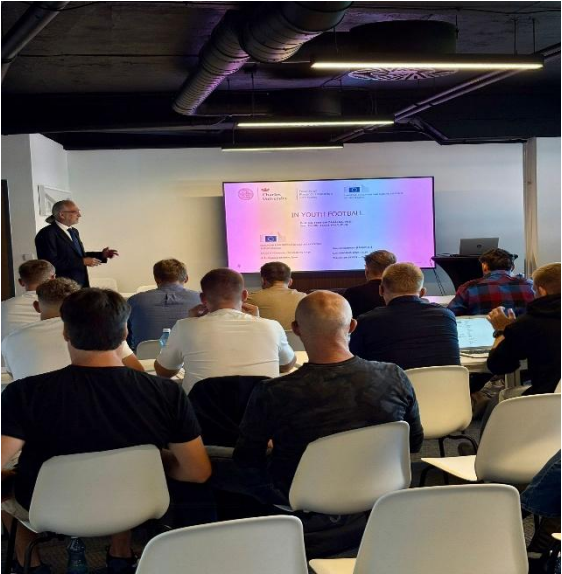


Meeting 1 at the Faculty of Physical Education and Sports – physical assessment.



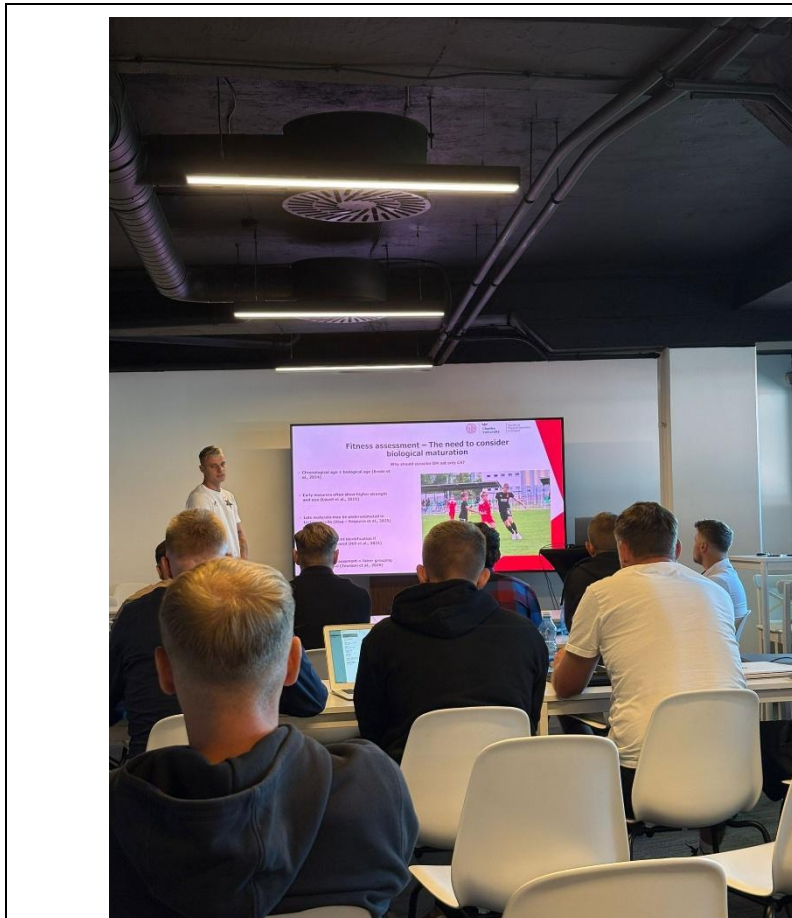
Faculty of Physical Education and Sports – main entrance.

5.2. Attachment 2

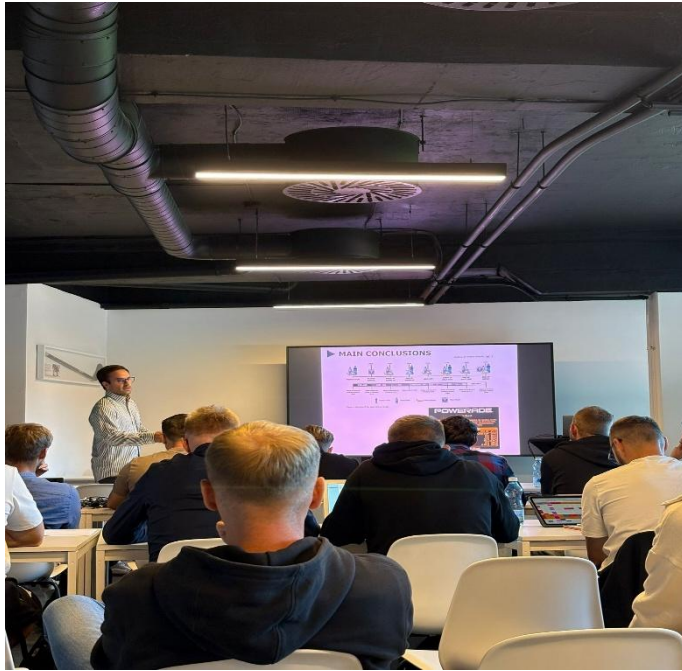
Photo	Description
	<p>Theoretical session about In Youth Football project.</p>



Presentation 1 about bio-banding models.



Presentation 2 about bio-banding in youth soccer academies.



Presentation 3 about bio-banding and nutrition.



SK Slavia Prague training center.

5.3. Attachment 3

Photo	Description
	<p>Bio-banding session – physical capacities.</p>



Bio-banding session – physical capacities.



Bio-banding session – small-sided games.



Bio-banding session – small-sided games.