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1 2 9 0 UNIVERSIDADE D COIMBRA

# Erasmus+ (ERASMUS+)

# Call: ERASMUS-SPORT-2024

# Project: 101183703 — IN YOUTH FOOTBALL

## IMPLEMENTATION PROGRESS: REPORT

**December 2025**

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**Index**

# 1. Introduction

The purpose of this document is to provide a comprehensive summary of the activities undertaken during the implementation of the IN YOUTH FOOTBALL project. This report not only outlines the key activities but also includes reflections from each event, offering valuable insights for the participating partners. These reflections will facilitate meaningful discussions and assessments, enabling the partners to better prepare and improve for future events. By analyzing our experiences and outcomes, we aim to enhance the effectiveness of our initiatives and foster greater engagement in youth football.

To facilitate a thorough analysis of the project, we have compiled the primary materials generated thus far. Throughout this process, we organized two online meetings and three in-person sessions, which provided vital opportunities for collaboration and discussion. These meetings served as platforms for sharing insights, addressing challenges, and brainstorming solutions, all contributing to our understanding of the project's progress. By gathering diverse perspectives and engaging in constructive dialogue, we aim to deepen our evaluation of the project's impact and effectiveness. n this report, we have intentionally refrained from including details about the dissemination of the project, as this information was thoroughly covered in a previous report. By omitting this content, we aim to maintain focus on the current findings and insights that have emerged since our last update. However, for those interested in the project's outreach efforts, we encourage you to refer to the earlier report for a complete overview of our communication strategies and their effectiveness.

## 2. Online meetings

The first online meeting was held on January 5, 2025. Led by the University of Coimbra, this meeting aimed to confirm the successful outcomes of the project and outline the main activities anticipated from each partner (see **presentation 1**). This gathering allowed open dialogue, where participants shared insights and clarified roles, fostering a collaborative atmosphere.

The second online meeting was held on April 7, 2025, once again under the leadership of the University of Coimbra. During this session, the university presented a comprehensive overview of the methods for assessing biological maturation, with a particular emphasis on the Khamis-Roche equation. This equation necessitates the evaluation of several key factors, including chronological age, height, weight, and midparent height, to accurately assess biological maturation throughout the project's duration. To support the partners in this data collection process, the University of Coimbra developed a detailed PDF guide that outlines the procedures and best practices. In addition, an automated Excel spreadsheet was created, enabling partners to calculate the percentage of predicted adult height at the time of observation efficiently. Recognizing the importance of accurate data collection, it was emphasized that training for observers is crucial to ensure the validity of the data collected. Furthermore, we recorded a tutorial on how to use the Excel file and provided all related materials via email for the partners' convenience in their respective data collection efforts (see **presentation 2** and the **file titled Anthropometric data collection**).

## 3. In person meetings

The first in-person meeting took place in Coimbra in January 2025, facilitated by the University of Coimbra. During this meeting, we engaged in discussions regarding the rationale behind the project, as well as its general and specific aims. The University of Coimbra also elaborated on the objectives assigned to each partner, prompting questions about the feasibility of the proposed work plans and practical activities (see **Presentation 3**). Furthermore, we collaboratively defined the expected outcomes for each partner, establishing clear benchmarks for measuring success. We also outlined the next steps for the project and assigned specific tasks related to the implementation of bio-banding models. This thoughtful planning ensured that all partners were aligned in their efforts and prepared to move forward effectively, enhancing collaboration and accountability throughout the duration of the project.

The second meeting in Prague provided an invaluable opportunity to implement the bio-banding model in soccer for under-14 and under-15 players. The training sessions, conducted both on the pitch and in the gym, were meticulously designed with biological maturation in mind. This aspect was crucial for tailoring the program to the specific developmental needs of each player. During the meeting, we focused on understanding the distribution of players within each bio-banding category, which is essential for the organization of bio-banding tournaments. To enhance our approach, we developed a survey aimed at gathering insights for optimizing tournament structures, and the results of this survey **are included in the attachments**. Additionally, the face-to-face nature of the meeting facilitated rich exchanges among coaches, players, and researchers. This collaborative environment allowed us to combine firsthand experiences with scientific evidence, fostering a deeper understanding of the bio-banding concept. We made a

concerted effort to gather data and compare it with existing research, reinforcing our commitment to evidence-based practices. Finally, we were able to disseminate the project's findings effectively by organizing a conference that highlighted the key results related to biological maturation assessments. This dissemination not only shared our progress with stakeholders but also aimed to encourage further dialogue and research in the field.

The third in-person meeting took place in Poland, where we held bio-banding events that included both school and soccer participants. This event served as a critical platform for our partners to address and finalize several important aspects of the protocol, including pitch specifications, match formats, match duration, and warm-up routines. Additionally, the meeting provided us with valuable insights regarding the number of players required for the upcoming events, as well as the age groups that should be considered for future tournaments. This was crucial for ensuring that the events are well-structured and cater to the developmental needs of all participants. Most importantly, through rigorous data collection and analysis, we identified potential benefits of bio-banding tournaments across different maturity categories. These findings indicate that bio-banding can significantly enhance player experience and performance by fostering an environment that accounts for individual maturation levels. Further details on some of these experiences and insights can be found in a previous report, which outlines our observations and recommendations for future implementations.

## 4. Conclusions and future recommendations

The implementation of the IN YOUTH FOOTBALL project has been a significant step toward enhancing **youth soccer through the bio-banding model**. Several conclusions can be drawn from the activities and discussions held throughout the project thus far:

1. **Successful Collaboration**: The joint efforts among the University of Coimbra and participating partners have fostered a collaborative atmosphere that has been vital for addressing challenges and sharing insights. The open dialogue established in online and in-person meetings facilitated a clearer understanding of roles and responsibilities, ultimately contributing to effective teamwork and progress.
2. **Evidence-Based Practices**: The emphasis on scientific methods for assessing biological maturation, particularly through the Khamis-Roche equation, highlights the importance of utilizing evidence-based practices. The provision of comprehensive resources, such as detailed guides and automated tools, has strengthened the data collection process and underscored the need for trained observers to ensure data validity.
3. **Tailored Training Approaches**: The bio-banding model's implementation in training sessions has demonstrated its potential to cater to the individual developmental needs of young players. Insights gained from the meetings indicate that recognizing biological maturation can enhance player experience and performance in competitive settings.
4. **Protocol Development**: The discussions around protocol specifications, including match formats and warm-up routines, have laid a solid foundation for

organizing future bio-banding tournaments. This structured approach is crucial for ensuring that events are aligned with the developmental goals of participants.

Looking ahead, several considerations can help further advance the objectives of the IN YOUTH FOOTBALL project:

1. **Ongoing Monitoring and Evaluation**: Continuous monitoring of data collection practices and player performances will be essential for evaluating the long-term impacts of bio-banding on youth development. This ongoing evaluation should focus on adapting strategies based on collected data to optimize the effectiveness of future initiatives.
2. **Expansion of Bio-Banding Initiatives**: As the project progresses, we recommend exploring the expansion of bio-banding initiatives.
3. **Integration of Research and Feedback**: Actively seeking feedback from participants (players and coaches) will enrich our understanding of the project's success and areas for improvement. Integrating this feedback with academic research can inform future practices and contribute to the broader field of youth sports development.

## 5. Attachments

Call: ERASMUS-SPORT-2024 (Sport 2024)
Topic: ERASMUS-SPORT-2024-SSCP
Type of Action: ERASMUS-LS
(ERASMUS Lump Sum Grants)
Proposal number: 101183703

# INCLUSIVE YOUTH FOOTBALL

Acronym: IN YOUTH FOOTBALL

1 2 9 0

UNIVERSIDADE D COIMBRA

# PROPOSAL FUNDED

Ref. Ares(2024)6005748 - 23/08/2024

EUROPEAN EDUCATION AND CULTURE EXECUTIVE AGENCY (EACEA)

EACEA.A – Erasmus+, EU Solidarity Corps
**A.3 – Erasmus Mundus, Sport**

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PORTUGAL

**Subject: Erasmus+ (ERASMUS+)**
**Call: ERASMUS-SPORT-2024**
**Project: 101183703 — IN YOUTH FOOTBALL**
**GAP invitation letter**

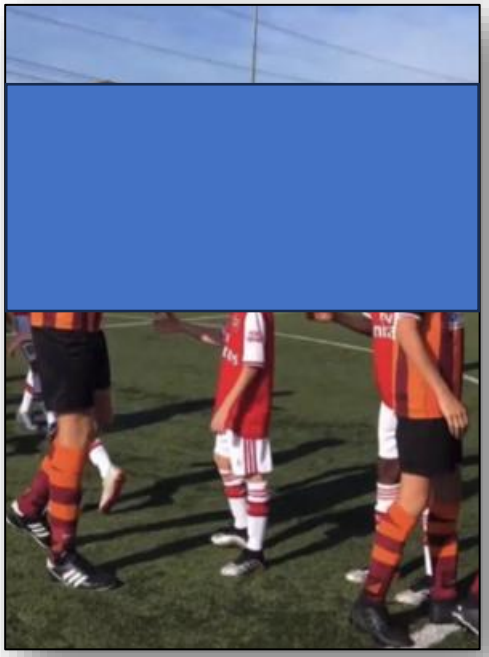
Dear Applicant,

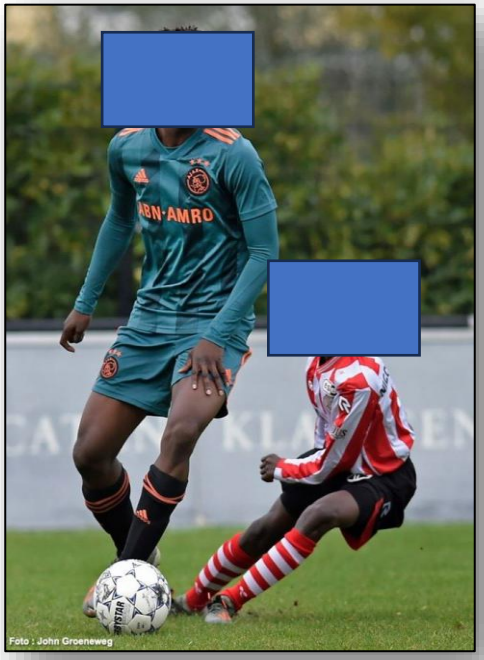
I am writing in connection with your proposal for the above-mentioned call.

Having completed the evaluation, we are pleased to inform you that your proposal has passed this phase and that we would now like to start grant preparation.

Please find enclosed the evaluation summary report (ESR) for your proposal.

# AIM OF PROJECT






The biological clock is not always comparable to the chronological age.

1. **CREATE** A BIO-BANDING MODEL

2. **IMPLEMENT** THE MODEL IN TRAINING SESSIONS AND TOURNAMENTS

# AIM OF PROJECT

# HOW?

| INSTITUTION | WORK PACKAGE | GENERAL PURPOSE |
|---|---|---|
| University of Coimbra | 1 | DEFINE THE BIO-BANDING MODEL |

Sports Med (2018) 48:907–931
https://doi.org/10.1007/s40279-017-0851-7

SYSTEMATIC REVIEW

## Talent Identification and Development in Male Football: A Systematic Review

Hugo Sarmento[1,2] · M. Teresa Anguera[3] · Antonino Pereira[4] · Duarte Araújo[5]

Sports Medicine (2019) 49:1671–1685
https://doi.org/10.1007/s40279-019-01166-x

REVIEW ARTICLE

## Bio-Banding in Youth Sports: Background, Concept, and Application

Robert M. Malina[1,7] · Sean P. Cumming[2] · Alan D. Rogol[3] · Manuel J. Coelho-e-Silva[4] · Antonio J. Figueiredo[4] · Jan M. Konarski[5] · Sławomir M. Kozieł[6]

Published online: 19 August 2019

# AFTER TO DEFINE THE MODEL…THE IMPLEMENTATION

| INSTITUTION | WORK PACKAGE | GENERAL PURPOSE |
|---|---|---|
| **Charles University** | **2** | **IMPLEMENT THE MODEL: CLUB CONTEXT – PILOT STUDY** |
| **Madeira Football Association** | **3** | **DISSEMINATE THE MODELS IN THE SCHOOL AND IMPLEMENT THE MODEL IN CLUB CONTEXT – TRAININGS AND TOURNAMENTS** |
| **University of Rzeszów** | **4** | **IMPLEMENT THE MODEL: SCHOOL CONTEXT** |

- These WPs are dependent on **WP1**.

- FIRST MEETING: 13TH-18TH JANUARY (**2 PERSONS PER PARTNER**).

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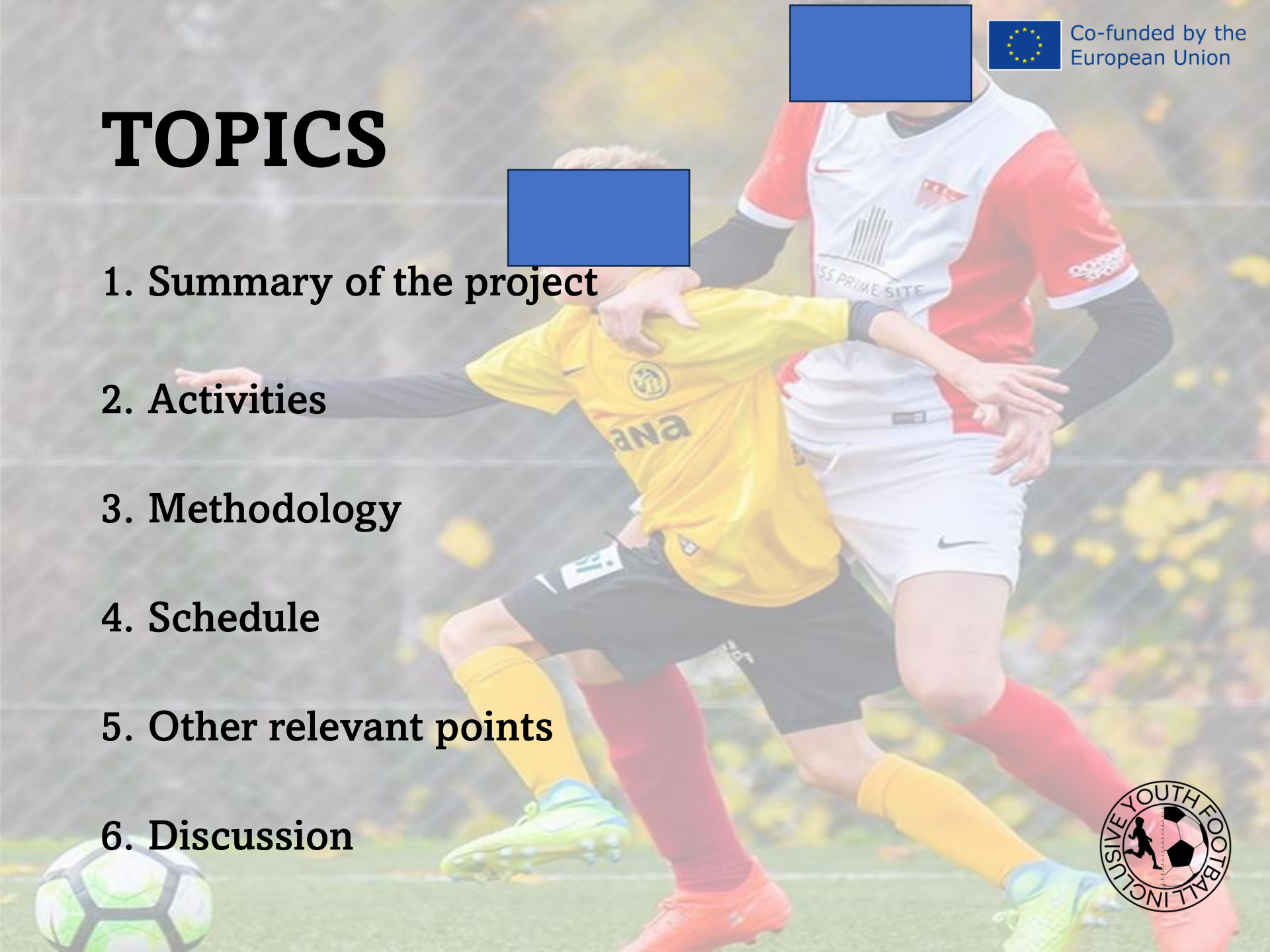

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# TOPICS

1. Summary of the project
2. Activities
3. Methodology
4. Schedule
5. Other relevant points
6. Discussion

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# 1. SUMMARY

| General objectives ERASMUS+ | Priorities ERASMUS+ | General objective |
|---|---|---|
| Promoting **inclusion** and **equity** at sports organizations | Inclusion and diversity | Promoting sport participation for all youngsters |
| Promote **active participation and non-formal learning of youth** | Participation in democratic life, common values and civic engagement | |
| Strengthening **European identity** | Promoting healthy lifestyle | |

**Why?**

| **Statistics of football participation (under-12 to under-16)** | |
|---|---|
| Males | 11% |
| Females | 16% |

Emmonds et al. (2021)

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- This decrement in rates of participation can be explained by differences in biological clock.

- In other words, this represents **VARIABILITY** in size and performance…

| Variable | U12 | U14 |
|---|---|---|
| Height (cm) | 132 – 161 | 143 – 183 |
| Weight (kg) | 27 – 55 | 34 – 78 |
| Sprint (s) | 10 – 7 | 9 – 7 |
| Agility (s) | 25 – 18 | 21 – 16 |
| Yoyo (m) | 240 – 2880 | 320 – 3960 |

Malina et al. (2019) - male football players

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| Variable | 12 - 13 | 13 - 14 |
|---|---|---|
| Height (cm) | 147 - 170 | 143 – 172 |
| Weight (kg) | 35 – 74 | 39 – 83 |

Martinho et al. (2023) - female football players

Those who are…

- advanced, taller and heavier:
  - are more likely **to be successful**
  - perceived **as more talented** by coaches and scouts

- delayed, smaller and thinner:
  - are more likely to be **overlooked**
  - **excluded**
  - **denied developmental opportunities**

Cumming et al. (2017)

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# Aim of the project*

- Create opportunities for everyone (males and females) to be retained in football.

- Create opportunities for everyone (males and females) to be retained and to increase the number of participants in football.

*Activities are connected

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# 2. ACTIVITIES

## How ?

- **PILOT STUDY** FOR ACTIVITY 2

- We will group players using the **bio-banding model***

- Bio-banding tournament (two times per week):
  - Competition within the football academy (12-16 yrs)
  - Organized players by biological development
  - 11 vs 11 - two halves of 30 minutes, free substitutions
  - Training session
  - Interviews (understand the perceptions of coaches and players in bio-banding tournaments)

*Methodological details will be present next

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## Questions for Charles University

- Is it possible to test in **males** and **females**?

- Which data do you collect **during the season**? Is it possible to contrast this data with **bio-banding competition**? (e.g. physical outputs, rate of perceived exertion, technical variables)

- Is possible to **overlap these bio-banding events** with the next presential meeting in Prague?

**JULY 2025 - PROJECT**

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## How ?

1. Disseminate bio-banding activity in the schools and clubs:
   - Meeting with physical education teachers
   - Meeting with football coaches
   - Meeting with youth football players and school participants

**How ?** Using the experience of previous activity:

- Videos
- Photographs
- Personal experiences

AIM: **Stimulating** school participants **to move** for football clubs.

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## How ?

2. Make a **survey** about **how many kids are interested** to practice football in context of bio-banding and bring them to the football club.

3. Measuring biological development*

4. **Bio-banding tournaments** (two tournaments in two weeks within the same football club).

*Methodological details will be present next

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## Expected outputs

- **Interviews** (understand the perceptions of coaches and participants in bio-banding tournaments).
- **Report about school interventions.**
- **How many** kids will be interested in football?
- After six months, how many of those kids will be **retaining** in football?

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## Questions for University of Rzeszów

- Do you think this logistics plan is feasible?
- Further discussion: males and females

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## How ?

1. Disseminate bio-banding activity in the schools and clubs:
   - Meeting with physical education teachers
   - Meeting with football coaches
   - Meeting with youth football players and school participants

**How ?** Using the experience of previous activity:

- Videos
- Photographs
- Personal experiences

AIM: **Stimulating** school participants **to move** for football clubs.

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## How ?

2. Make a **survey** about **how many kids are interested** to practice football in context of to the football club.

3. Measuring biological development*

4. Four **different tournaments** (two tournaments in two weeks within the same football club):
   - 1st tournament – Age groups
   - 2nd tournament – Bio-banding event
   - 3rd tournament – Age groups
   - 4th tournament – Bio-banding event

*Methodological details will be present next

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## Expected outputs

- **Interviews** (understand the perceptions of coaches and participants in age and bio-banding tournaments).
- **Report about school interventions.**
- **How many** kids will be interested in football?
- After six months, how many of those kids will be **retaining** in football?

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## Questions for Madeira Football Association

- Is it possible to test in **males** and **females**?

- To compare the events (age vs bio-banding) is it possible to use heart rate monitors, GPS, rate of perceived exertion?

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# 3. METHODOLOGY

**Assessment of biological development**

**Khamis-Roche equation** – it was used in youth players from **Premier League academies**:

- Chronological age (yrs)
- Stature (cm)
- Body weight (kg)
- Mid-parental height (cm) – identification document

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## The equation predicts the adult height of the player/participant

Athlete A

- Chronological age (yrs): 12.40
- Stature (cm): **166.2**
- Body weight (kg): 61.0
- Mid-parental height (cm): **169.5**

Predicted adult height: **186.2**

THEN WE CAN PREDICT THE PERCENTAGE OF ADULT HEIGHT AT THE TIME OF OBSERVATION:

$(166.2 \div 186.2) \times 100\% = \mathbf{89.3\%}$

**We need to do that for each player or participant**

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## Afterwards

- We need to organize the players within age groups according to bands using the previous indicator [**BIO-BANDING CONCEPT**]

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| Males | | | | | | FEMALES | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Chronological Age | $\beta_0$ | Stature (*in*) | Weight (*lb*) | Midparent Stature (*in*) | | Chronological Age | $\beta_0$ | Stature (*in*) | Weight (*lb*) | Midparent Stature (*in*) |
| 4 | -10,2567 | 1,23812 | -0,087235 | 0,50286 | | 4 | -8,1325 | 1,24768 | -0,19435 | 0,44774 |
| 4,5 | -10,719 | 1,15964 | -0,074454 | 0,52887 | | 4,5 | -6,47656 | 1,22177 | -0,185519 | 0,41381 |
| 5 | -11,0213 | 1,10674 | -0,064778 | 0,53919 | | 5 | -5,13583 | 1,19932 | -0,17553 | 0,38467 |
| 5,5 | -11,1556 | 1,0748 | -0,05776 | 0,53691 | | 5,5 | -4,13791 | 1,1788 | -0,16484 | 0,36039 |
| 6 | -11,1138 | 1,05923 | -0,052947 | 0,52513 | | 6 | -3,51039 | 1,15866 | -0,154 | 0,34105 |
| 6,5 | -11,0221 | 1,05542 | -0,049892 | 0,50692 | | 6,5 | -3,14322 | 1,13737 | -0,14294 | 0,32672 |
| 7 | -10,9984 | 1,05877 | -0,048144 | 0,48538 | | 7 | -2,87645 | 1,11342 | -0,13184 | 0,31748 |
| 7,5 | -11,0214 | 1,06467 | -0,047256 | 0,46361 | | 7,5 | -2,66291 | 1,08525 | -0,12086 | 0,3134 |
| 8 | -11,0696 | 1,06853 | -0,046778 | 0,44469 | | 8 | -2,45559 | 1,05135 | -0,11019 | 0,31457 |
| 8,5 | -11,122 | 1,06572 | -0,046261 | 0,43171 | | 8,5 | -2,20728 | 1,01018 | -0,09999 | 0,32105 |
| 9 | -11,1571 | 1,05166 | -0,045254 | 0,42776 | | 9 | -1,87098 | 0,9602 | -0,09044 | 0,33291 |
| 9,5 | -11,1405 | 1,02174 | -0,043311 | 0,43593 | | 9,5 | -1,0633 | 0,89989 | -0,08171 | 0,35025 |
| 10 | -11,038 | 0,97135 | -0,039981 | 0,45932 | | 10 | 0,33468 | 0,82771 | -0,07397 | 0,37312 |
| 10,5 | -10,8286 | 0,89589 | -0,034814 | 0,50101 | | 10,5 | 1,97366 | 0,74213 | -0,06739 | 0,40161 |
| 11 | -10,4917 | 0,81239 | -0,02905 | 0,54781 | | 11 | 3,50436 | 0,67173 | -0,06136 | 0,42042 |
| 11,5 | -10,0065 | 0,74134 | -0,024167 | 0,58409 | | 11,5 | 4,57747 | 0,6415 | -0,05518 | 0,41686 |
| 12 | -9,3522 | 0,68325 | -0,020076 | 0,60927 | | 12 | 4,84365 | 0,64452 | -0,04894 | 0,3949 |
| 12,5 | -8,6055 | 0,63869 | -0,016681 | 0,62279 | | 12,5 | 4,27869 | 0,67386 | -0,04272 | 0,3585 |
| 13 | -7,8632 | 0,60818 | -0,013895 | 0,62407 | | 13 | 3,21417 | 0,7226 | -0,03661 | 0,31163 |
| 13,5 | -7,1348 | 0,59228 | -0,011624 | 0,61253 | | 13,5 | 1,83456 | 0,78383 | -0,03067 | 0,25826 |
| 14 | -6,4299 | 0,59151 | -0,009776 | 0,58762 | | 14 | 0,32425 | 0,85062 | -0,025 | 0,20235 |
| 14,5 | -5,7578 | 0,60643 | -0,008261 | 0,54875 | | 14,5 | -1,13224 | 0,91605 | -0,01967 | 0,14787 |
| 15 | -5,1282 | 0,63757 | -0,006988 | 0,49536 | | 15 | -2,35055 | 0,97319 | -0,01477 | 0,0988 |

- **PDF file** about assessments
- Preparing a **sheet** with the formulas
- **Video-tutorial** how to use it
- Deadline to share with partners: **28 February**

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# 4. SCHEDULE

| Description | Date |
|---|---|
| Maturation assessment | 28 February |
| Online meeting | May (?) |
| Online meeting | June (?) |
| Prague meeting | July 2025 |
| Poland meeting | December 2025 |
| Madeira meeting | April 2026 |

Remaining tasks:

- Select the observers
- Familiarization with the procedures
- Training the observers
- Logistic to organize the events

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# 5. OTHER RELEVANT POINTS

- Statistics
- Logo

- Budget for website
- Social media (Instagram)
- Share the news on your organization's page and send us the link

# THANK YOU FOR YOUR ATTENTION

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**IN YOUTH FOOTBALL — 101183703**

**ERASMUS-SPORT-2024**

Anthropometric data collection

Players name:

Country:

Assessor initials:

Assessment date (day/month/year):

Birthday (day/month/year):

Height assessment 1 (cm):

Height assessment 2 (cm):

Example: 178,1 cm

Weight assessment 1 (kg):

Weight assessment 2 (kg):

Example: 75,0 kg

Height mother (cm)*:

Height father (cm)*:

* This information is obtained from passports or identity cards.

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## IMPORTANT INFORMATIONS FOR DATA COLLECTION

- Ensure that players do not wear personal items, such as bracelets, rings, or watches.
- Conduct the assessment of height and weight while the players are in minimal clothing.
- When measuring height, align the Frankfort plane, which involves positioning the tragion and orbital anthropometric points properly. Refer to the figure below for guidance.

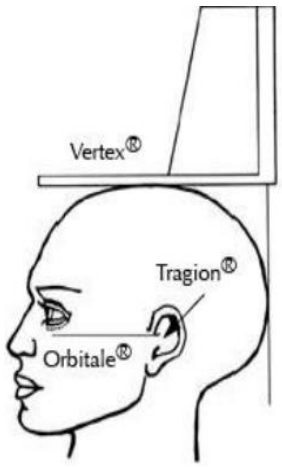


Figure 1. Alignment of Frankfort plan.

# Bio-banded Tournament Questionnaire

**Please fill in these few questions about yourself.**

1) What is your date of birth? (e.g. 18th September 1999)

Date ☐ Month ☐ Year ☐

2) Which team did you play for today? _____

What position did you play today?

- Goalkeeper ☐
- Defender ☐
- Midfielder ☐
- Forward ☐

To help us learn more about bio-banding, please answer the following questions by circling the answer that best represents your experience competing in the bio-banded tournament. When answering each question please compare your experience playing in the bio-banded tournament against your experiences playing in regular age group games. Remember, there are no right or wrong answers.

Please circle the number that applies most for you for each of the questions below

Q1. Do you understand the purpose of bio-banding?

| Not at all | | Some of it | | Completely |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q2. Did you enjoy yourself more or less than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q3. Did you feel more or less likely to be injured than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q4. Did you feel more or less nervous than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q5. Were the bio-banded games more or less physically challenging than your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q6. Were the bio-banded games more or less technically challenging than your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q7. Did you learn more or less than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q8. Did you have to rely on your teammates more or less than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q9. Did you feel more or less of a leader than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q10. Were you more or less involvement in the game than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q11. Did you have put in more or less effort to succeed than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q12. Did you use your technical skills more or less than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q13. Did you use your physical abilities (strength, speed, size) more or less than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q14. Did you have to use your creativity more or less than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q15. Did you have more or less of a physical advantage than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q16. Did you have more or less time to play the ball than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q17. Did you have more or less opportunity to be one of the best players than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q18. Were you more or less competitive in physical challenges (Tackling, heading), than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q19. Was it more or less difficult to dominate the game physically than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q 20. Did you rely more or less on your tactical skills than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q 21. Did you pass the ball more or less frequently than in age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q 22. Did you have to make decisions more or less quickly than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q 23. Did you to release the ball more or less quickly than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q24. Did you worry more or less about performing well than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q 25. Were you more or less likely to adapt your playing style than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q 26. Were you more or less likely to experience new challenges than in age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q 27. Were you more or less likely to try new things than in age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q 28. Did you have to put in more or less effort to succeed than in age group games??

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q 29. Did you have to communicate more or less than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q 30. Did you more or less pressure to win than in your age group games?

| Less | | No difference | | More |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

Q 31. Would you like bio-banded games to become a regular part of your games programme?

| No | Yes |
|---|---|

**Open-ended Questions - Write your answers in the boxes below**

Q1. Can you describe anything that you liked about the *Bio-banded Games?*

Q2. Can you describe anything that you did not like about the *Bio-banded Games?*

Q3. What can we do to improve the Bio-banded games?