



Warsaw University  
of Technology



Faculty  
of Transport

WARSAW UNIVERSITY OF TECHNOLOGY

Joint Project: Capacity Building in  
the Field of Higher Education  
ERASMUS+ 2018

Crisis and Risks  
Engineering for  
Transport Services

# CRENG – AZ NEO monitoring



Co-funded by the  
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**Baku, Oct 24 2019**

**Prof. Marianna Jacyna**  
**CRENG project coordinator**  
**Dr. Konrad Lewczuk**  
**CRENG project manager**



## CRENG background

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- ❑ **Factors** influencing transport systems can lead to **failures in supply chains**
- ❑ **UA, AZ, TM** are located in strategic Europe-Asia transport **routes**
- ❑ **European universities** implement CRENG-type MA programs
- ❑ EU supports integration of PCs transport systems into global system and shares **experience** to support CRENG implementation.
- ❑ PCs companies implementing anti risks and crisis strategies face with **lack of skilled CRENG specialists**



### CRENG objectives:

- Ensure sustainability of UA, AZ, TM transport systems and integration with global transportation network
- Create environment for education of high skilled specialists in line with labour market, EU best practices and Bologna process

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## Areas of CRENG activity

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- ❑ Develop, implement and accredit (at national level) **new CRENG MA program in UA, AZ and TM**
- ❑ Developing and implementing **sustainable strategy** of project realization and project **quality assurance plan**
- ❑ Creating **environment for teaching and learning** CRENG disciplines:
  - Skills Wallet (tool for interaction between universities and labour market)
  - International Project Based Learning
  - Network of CRENG Service Offices
  - Didactic content development
  - MOODLE-based e-courses and web platform
  - Equipped laboratories



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## Areas of CRENG activity

- Information environment** for dissemination of project results
- Professional development of teachers** from UA, AZ and TM universities
- Academic teachers from PCs **develop teaching environment** on CRENG
- Pilot training** of students in the new CRENG MA program
- Operational and financial management of the project

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## CRENG partners

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|   |           |  |
|---|-----------|--|
|    | <b>PL</b> | <b>P1:</b> <b>Warsaw University of Technology</b>                          |
|    | DE        | P2: Berlin Technical University  |
|    | FR        | P3: University of Valenciennes   |
|    | DE        | P4: ECM Space technologies GmbH  |
|    | UA        | P5: Pryazovskyi State Technical University                                 |
|    | UA        | P6: Dnipropetrovsk National University of Railway Transport                |
|    | UA        | P7: State University of Infrastructure and Technologies                    |
|    | <b>AZ</b> | <b>P8:</b> <b>Baku Engineering University</b>                              |
|    | <b>AZ</b> | <b>P9:</b> <b>Azerbaijan Technical University</b>                          |
|    | <b>AZ</b> | <b>P10:</b> <b>Azerbaijan Technological University</b>                     |
|    | TM        | P11: Turkmen State Institute of Transport and Communications               |
|    | TM        | P12: International University for the Humanities and Development           |
|    | TM        | P13: Turkmen State Architecture and Construction Institute                 |
|    | <b>AZ</b> | <b>P14:</b> <b>The Ministry of Education of the Republic of Azerbaijan</b> |
|   | TM        | P15: Ministry of Education of Turkmenistan                                 |
|  | <b>AZ</b> | <b>P16:</b> <b>Baku Transport Agency</b>                                   |
|  | UA        | P17: The Ukrainian Railway (Ukrzaliznytsia)                                |









# Partnership activities and cooperation: Project Management Board (PMB)

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|   | Partner # | Organisation Name                                      | Acronym | City / Country               | PMB Member                         | Email                                  |
|---|-----------|--|---------|------------------------------|------------------------------------|--|
|    | P1        | Warsaw University of Technology                        | WTU     | Warsaw / Poland              | Marianna Jacyna/<br>Konrad Lewczuk | maja@wt.pw.edu.pl/<br>kle@wt.pw.edu.pl |
|    | P2        | Technische Universität Berlin                          | TUB     | Berlin / Germany             | Elena Eyngorn                      | elena.eyngorn@tu-berlin.de             |
|    | P3        | Université polytechnique des<br>Hauts-de-France        | UPHF    | Hauts-de-<br>France / France | Jimmy Lauber                       | jimmy.lauber@univvalenciennes.fr       |
|  | P4        | ECM space technologies GmbH                            | ECM     | Berlin / Germany             | Dr. A.Sterenharz                   | arnold.sterenharz@ecm-space.de         |
|  | P5        | Pryazovskiy State Technical<br>University              | PSTU    | Mariupol /<br>Ukraine        | Kateryna Polupanova                | Polupanova.pstu@gmail.com              |
|  | P7        | State University of Infrastructure<br>and Technologies | SUIT    | Kyiv / Ukraine               | Julia Bulgakova                    | jbulgakova@gmail.com                   |

<https://www.creng.eu/index.php/about/consortium-2/12-project-management>

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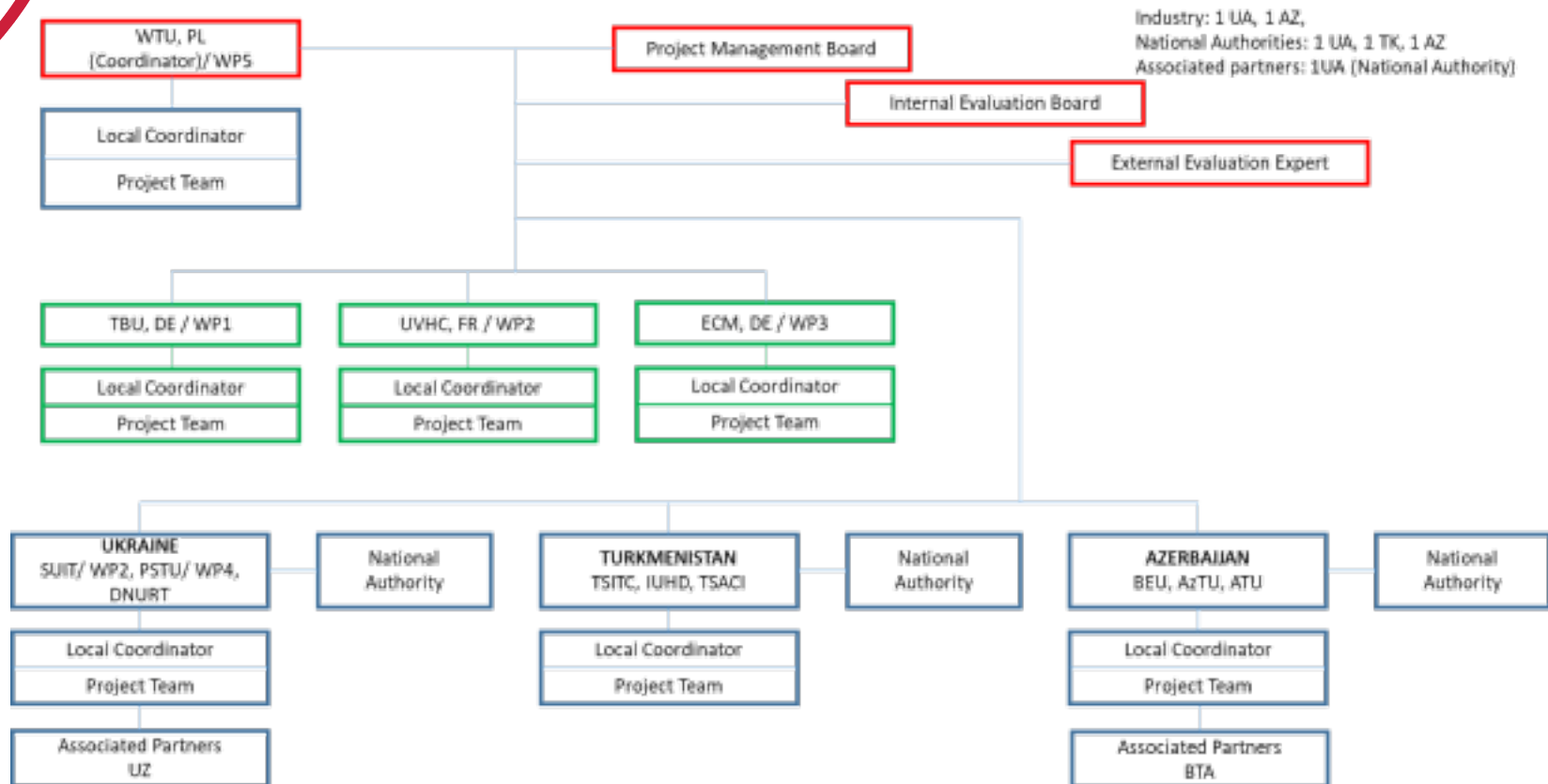


# Partnership activities and cooperation: organigram

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## Partnership activities and cooperation: basic documents

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CRENG Project Documents (<https://www.creng.eu/index.php/documents>):

- Information Management Package:** presents the organizational structure of the project (<https://www.creng.eu/images/downloads/documents/CRENG%20Information%20Management%20Package.pdf>)
- Kick-off Meeting Minutes:** approved by PMB, regional coordinators in partner countries (<https://www.creng.eu/index.php/meetings/6-kick-off-meeting-warsaw>)
- Training & Coordination Meeting Berlin Minutes:** ([https://www.creng.eu/images/meetings/2019-09\\_TrainingBerlin/docs/Minutes%20Coordination%20Meeting.pdf](https://www.creng.eu/images/meetings/2019-09_TrainingBerlin/docs/Minutes%20Coordination%20Meeting.pdf))
- Project Management structure and responsibly persons** (<https://www.creng.eu/index.php/about/consortium-2>)

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



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# CRENG Work Packages

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1. **PREPARATION** - Designing Agreement and guidelines on instructional strategies for MA program development:
  - **kick-off meeting**
  - **working groups** in each PCs and EU HEIs
  - the **Agreement and Guideline** model for MA curricula development and implementation designed and signed by 9 PCs HEIs and 3 EU HEIs
2. **DEVELOPMENT** - Development of new MA program CRENG and innovative teaching environment
3. **QUALITY PLAN** - Internal and external quality control of processes and deliverables
4. **DISSEMINATION & EXPLOITATION** - Strategy dissemination and event plan
5. **MANAGEMENT** - Management of the project



ONGOING WPS



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- PMB Skype conferences** (20th of each month) to discuss actual status of project implementation and plan short and long term activities according to the project implementation plan
- News Letters** prepared and sent to managers and coordinators of partner universities after PMB Skype conferences
- PMB maintains **ongoing communication with partners** via e-mail, Skype, Viber, WhatsApp, FB
- PMB members oversee the timeliness and quality of the work plan and advise partners as needed
- Issues reported to **Project Officer** (Belén Enciso, EC EACEA)

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## Partnership activities and collaboration: project management

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- Partnership Agreements signed by all partners
- Decision-making procedure: by discussing and voting partners' proposals at coordination meetings. Decisions approved by minutes of coordination meetings.
- Project registration – to be reported



## Project implementation: Project budget use



- P1 (WUT) is responsible** for financial management of the project
- WUT Internal Audit Office for advising purposes
- External financial auditor** scheduled – ongoing (GUMUŁKA Group)
- Main documents: Erasmus + Program Guide 2018  
([https://ec.europa.eu/programmes/erasmus-plus/sites/erasmusplus/files/files/resources/erasmus-plus-programme-guide\\_en.pdf](https://ec.europa.eu/programmes/erasmus-plus/sites/erasmusplus/files/files/resources/erasmus-plus-programme-guide_en.pdf))  
  
Guidelines for Erasmus+ project implementers  
<https://erasmusplus.org.pl> (or relevant national agencies)
- Activities: Master classes in financial management provided to partners (types and features of cost calculation, maintenance of financial project documentation, financial reports) on **Feb 26, 2019** and **Sep 20, 2019**.



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## Project implementation: modernization & development of educational programs

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### Activities carried out:

- ❑ List of **new curricula** to be developed approved and confirmed by minutes of the coordination meeting at the Warsaw University of Technology (Feb 27, 2019) (<https://www.creng.eu/index.php/meetings/6-kick-off-meeting-warsaw>)
- ❑ Seminars on “Curriculum Development Strategy”, “Basic Elements of the Bologna Process” provided during first training in Berlin (Sep 19, 2019) at the Berlin Technical University (<https://www.creng.eu/index.php/teaching-material>)
- ❑ EU universities **developed** and **uploaded** curricula to the project website (<https://www.creng.eu/index.php/teaching-material>)

Password to teaching  
materials: **CRENG2019**

### Planned activities:

- Each partner university should held seminar on new curriculum development (deadline Dec 15, 2019)



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## Project implementation: visibility and publicity

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Project website (EN): <https://www.creng.eu/>

**Responsible:** P4 EXOLAUNCH GmbH (formerly ECM Space Technologies GmbH)

**Content:** Project & consortium description, working papers, reports, training contents, news and project activities, teaching materials, gallery.

**Update:** Every two weeks, more often if necessary

**Links:**

1. Project pages on partner university sites (BEU, UTECA, AZTU)
2. FB project page: <https://www.facebook.com/CrengErasmus>

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## Project implementation: visibility and publicity

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### Promotional materials:

- Subcontracted to EXOLAUNCH GmbH (formerly ECM Space Technologies GmbH)
- Badges and information plates, flyers and folders
- Materials prepared for events by venue holders

### Scheduled **publication** activities:

- Lecture notes, presentations etc. for each developed curricula (before Nov 15, 2020)
- International Crisis and Risk Engineering Handbook on Transportation Services (before Nov 15, 2021)

Responsible – DNUZT (P6) (approved by minutes of the coordination meeting on Sep 20, 2019)

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## Project implementation: quality assurance

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- ❑ Main project quality assurance documents (<https://www.creng.eu/index.php/documents>):
  - *Quality Assurance Plan/Strategy*
  - *Recommendations for quality assessment of implementation of new and modernized curricula modules*

**Responsible** for implementing WP3 Quality Control – P4 EXOLAUNCH GmbH (formerly ECM Space Technologies GmbH)

**External evaluator:** prof. Nazokat Kasimova (meeting scheduled Nov 26, 2019, Warsaw University of Technology, Poland)



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## Project implementation: quality assurance

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### ❑ Measures implemented by each partner:

1. Internal quality assurance **plans** (developed)
2. Quality **assurance groups** at each partner university (formed)
3. **Criteria** (developed and constantly improved)
4. Teaching content **developers** (selected) (questionnaire available at:  
<https://docs.google.com/forms/d/1BgY0oxeK-yeMcdkvBjte8i1PVu34OctFH0wj2VMvHr4/edit>)
5. Questionnaires developed and **student surveys** conducted in the following areas:
  - effectiveness of communication channels to target group
  - satisfaction with the quality of learning and learning environment
  - active position

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## Project implementation: quality assurance

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❑ Measures implemented by each partner:

6. **Analysis** of existing curricula (finished) – disciplines to be updated and included into new MA program are identified.
7. **Reports** for the first half of the project compiled and presented at a coordination meeting in Berlin, Sep 20, 2019 (available at: <https://www.creng.eu/index.php/presentations-3>, coordination program and minutes available at: <https://www.creng.eu/index.php/meetings/20-training-berlin>)

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## Project implementation: purchase of equipment

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- Responsible:** P4 EXOLAUNCH GmbH (formerly ECM Space Technologies GmbH)
- Date of delivery:** (planned) Dec 15, 2019
- Purpose of equipment:**
1. Computers and software for training students and implementation of master's and course projects,
  2. Office equipment for CRENG Service Office
- Equipment:** agreed with the partners
- Supplier:** selected
- Information for partners:** seminar on equipment delivery procedure at the coordination meeting in Berlin, Sep 20, 2019
- Preparation for installation:** dedicated classroom ready for equipment installation



## Project implementation: purchase of equipment



**Equipment:**  
agreed with the partners

Software:  
**AnyLogic**  
*University Edition*

Hardware specification:

|                           |   |   |
|---------------------------|---|---|
| Desktop                   | Desktop PC Avtech i7 9700K/Z390/32GB<br>2666Mhz/RTX2080x1/512GB SSD/3000Gb HDD/Cougar<br>case/Cougar 800W PS/Win 10/KB USB/Mouse USB        | 1 |
| Desktop                   | Desktop PC Avtech i5 8400/16Gb DDR4 2666Mhz/SSD 256Gb/HDD<br>1000Gb/6Gb GTX1660/500W ATX/Win 10 /Kb   | 2 |
| Desktop + monitor<br>21,5 | AIO Avtech G20 21,5" (i3 8100/8Gb DDR4 2400Mhz/HDD<br>1000Gb/Kb USB/Mouse USB)  | 8 |
| Monitor                   | LCD Monitor Avtech Pro 3000 27D 165Hz   | 3 |
| Notebook                  | HP Pavilion 17-ab414ur (389)/Intel i5-8300UQ/ DDR4 8 GB/ HDD<br>1000GB/ 17,3" FHD LED/ 4GB Nvidia GF GTX1050 / DVD / RUS<br>(4PP05EA) Black | 3 |
| Multimedia<br>processor   | Projector Epson EB-S400 HDMI  | 3 |
| Office equipment          | MFD Epson M2140 + extra ink   | 3 |
| Office equipment          | MFD Canon imageRUNNER 2204N+toner C-EXV42   | 1 |
| Headset                   | Logitech wired Headset 960 USB  | 3 |
| Digital camera            | Digital Camera Canon EOS 4000D Kit  | 3 |
| WiFi router               | Wifi router Zyxel NBG6604   | 1 |
| Switch                    | Switch 1000 Gb/s 16 port  | 1 |

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## Project implementation: dissemination plan

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- ❑ The main document of *the Dissemination, Sustainability and Exploitation Strategy/Plan* available at <https://www.creng.eu/index.php/documents>:
- ❑ Each partner university developed a Dissemination Plan containing:
  - Project target groups
  - Communication channels with target groups
  - Action plan for dissemination of project results
  - Action plan to ensure sustainability of project results



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# Project implementation: staff trainings, mobility events & teacher upskilling

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## Past events

| Event  | Date                               | Place  | Purpose   | Participants   |
|--|------------------------------------|--|---|--|
| <b>Project kick-off meeting</b>                  | Feb 27-28, 2019<br><b>(2 days)</b> | Warsaw University of Technology, Poland                          | The first project coordination meeting for local coordinators, project management board, project stakeholders                     | <b>32</b>  |
| <b>UA regional coordination meeting</b>          | Jul 12, 2019<br><b>(1 day)</b>     | State University of Infrastructure and Technology, Kyiv, Ukraine | Meeting of teams from Ukrainian partner universities  | <b>6</b>   |
| <b>First training &amp; coordination meeting</b> | Sep 9-20, 2019<br><b>(12 days)</b> | Berlin Technical University, Germany                             | Training and coordination meeting for teachers, management board, business representatives from inside and outside the consortium | Planned <b>32</b><br>(including online and self financing participants <b>60</b> ) |

Agendas, minutes, photo relations available at:

<https://www.creng.eu/index.php/meetings/6-kick-off-meeting-warsaw>

<https://www.creng.eu/index.php/meetings/14-meeting-kyiv>

<https://www.creng.eu/index.php/meetings/20-training-berlin>



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# Project implementation: staff trainings, mobility events & teacher upskilling

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## Scheduled events

| Event                                  | Date                              | Place  | Purpose   | Participants |
|--|-----------------------------------|--|---|--------------|
| Second training & coordination meeting | Nov 25 - Dec 6, 2019<br>(12 days) | Warsaw University of Technology, Poland                  | Training and coordination meeting for teachers, management board, business representatives from inside and outside the consortium | Planned 32   |
| Third training & coordination meeting  | Jan 13 - 24, 2020<br>(12 days)    | Polytechnic University of Hauts-de-France (Valenciennes) | Training and coordination meeting for teachers, management board, business representatives from inside and outside the consortium | Planned 32   |

Training programs available on the project page on FB: <https://www.facebook.com/CrengErasmus>



## Sustainability of project results: measures



- Signing a CRENG+ Agreement with off-project stakeholders:
  - CRENG + Agreement draft (available at: <https://www.creng.eu/images//downloads/creng-plus/forms/Agreement%20CRENG%20Plus%20Form.pdf>)
  - Each partner developed a **list of potential signatories** (academic and non-academic sectors)
- Engaging CRENG Service Offices
  - Concept of CRENG Service Offices proposed by PMB (available at: <https://www.creng.eu/images/downloads/crengso/CRENG%20SO%20Concept.pdf>)
  - Draft CRENG Service Office regulations developed by each partner



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# Challenges for grant realization

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- Grant registration procedures
- Accredit new CRENG MA program
- Students recruitment
- CRENG+ implementation



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**Thank you for you  
attention!**

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