

Polish Analog Mars Rover Program

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A summary or a prologue?

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Engage & guide

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Polish student URC Mars Rovers (16 total):

2009 - Skarabeusz

2010 - Magma

2011 - Magma 2 (winner), Scorpio, Copernicus

2012 - Scorpio 2

2013 - Hyperion (winner), SKNL Rover Team, Scorpio 3, *not listed*: Copernicus 2, Hero

2014 - Hyperion 2 (winner), ERIS, Legendary, PCz Rover Team, *not listed*: SKN SIMP

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Polish student ERC Mars Rovers (13 registered, 8 new):

2014 – PCz Rover Team, Impuls, Scorpio, T-4, Orion, SKN SIMP, RŁ RAPTORS, Cud Team, HERO, FUPLA, ERIS/ARES, ERIS/Skarabeusz, Badgers from Lodz,

Other rovers:

2013 – Huzar Lunabotics rover

2007 – AMPB

2011-2014 – Magma White commercial, M4K prototype

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28 designs and teams

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Universities involved (13 total)

- Warsaw UT
- Białystok UT
- NCU Toruń
- Wrocław UT
- Rzeszów UT
- AGH UT Kraków
- Częstochowa UT
- Westpomeranian UT
- Kielce UT
- Poznań UT
- Łódź UT
- Bydgoszcz UT&LS
- Lublin UT

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Around **300** people involved and more supporting

Spin-offs so far:

Glazevski Robotics

ABM Space Education sp. z o.o.

Major partners:

Ministry of Science and Higher Education, PIAP, Netia, TME,
Archimedes, Planet PR,

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Payloads:

- Robotic arms
- Communication systems - local and satellite
- Package attachments
- Scoops
- Shallow drills
- Various types of cameras and optical systems
- Ground Penetrating Radar (WISDOM)
- ProVisG 3D imaging module
- Electrical resistivity module
- Mole penetrator (study on paper)
- Simple fluorescence detectors
- Advanced fluorescence L.I.F.E. instrument

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Achievements:

- Competition trips and 3 wins (Utah desert)
- European Rover Challenge - organization
- Dachstein Mars Simulated Mission
- Morocco Mars Simulated Mission
- Magma-Laser Polish-Austrian Ministry project
- Electrical resistivity project with French cooperation (Paris Sud University)
- Publications (including *Astrobiology*)
- Community interest
- Media action
- Outreach and education action
- Numerous awards from municipalities, voivodeships, organizations

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Pending:

- European Rover Challenge preps
- Svalbard mission preps
- Atacama mission preps
- Tirol mission preps
- ESA proposals
- ReMY educational project preps
- Activities for gaining state support

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Values (rough, in PLN = 0,25 EUR):

Average rover cost: 50 000

Average US trip: 60 000

Spin-off rover investments: 170 000

13 URC + 3 not listed + 8 ERC + 2 spin-offs = ca **2 000 000**

No wages! (level of 60%) → 5 000 000

Media equivalent of ca 3 000 000

Returns: know know (? PLN), Polish PR, space PR

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Nasty!

6 years

The only space program

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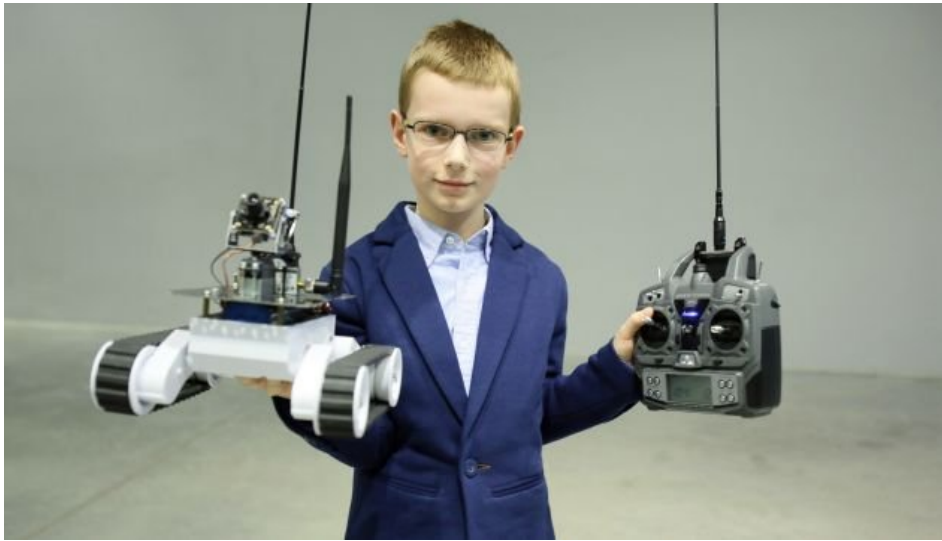
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HR development

2008	→	2014	→	2020
Students	→	Professionals	→	Experts
	+	Students	→	Professionals
			+	Students



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Goals:

Economical:

1. Definition of applications and spin-off for 28 rover designs
2. Polish high-tech presence in international projects and locations

Scientific and tech:

Searching for water, geology studies, extremophile studies, engineering and payload testing (including limited power and communication testing), environmental monitoring, ice cover monitoring, direct space analog studies, resource surveying, geophysics, archaeology,

For partners (international welcome):

1. Pool of organized concepts
2. Organized human resources

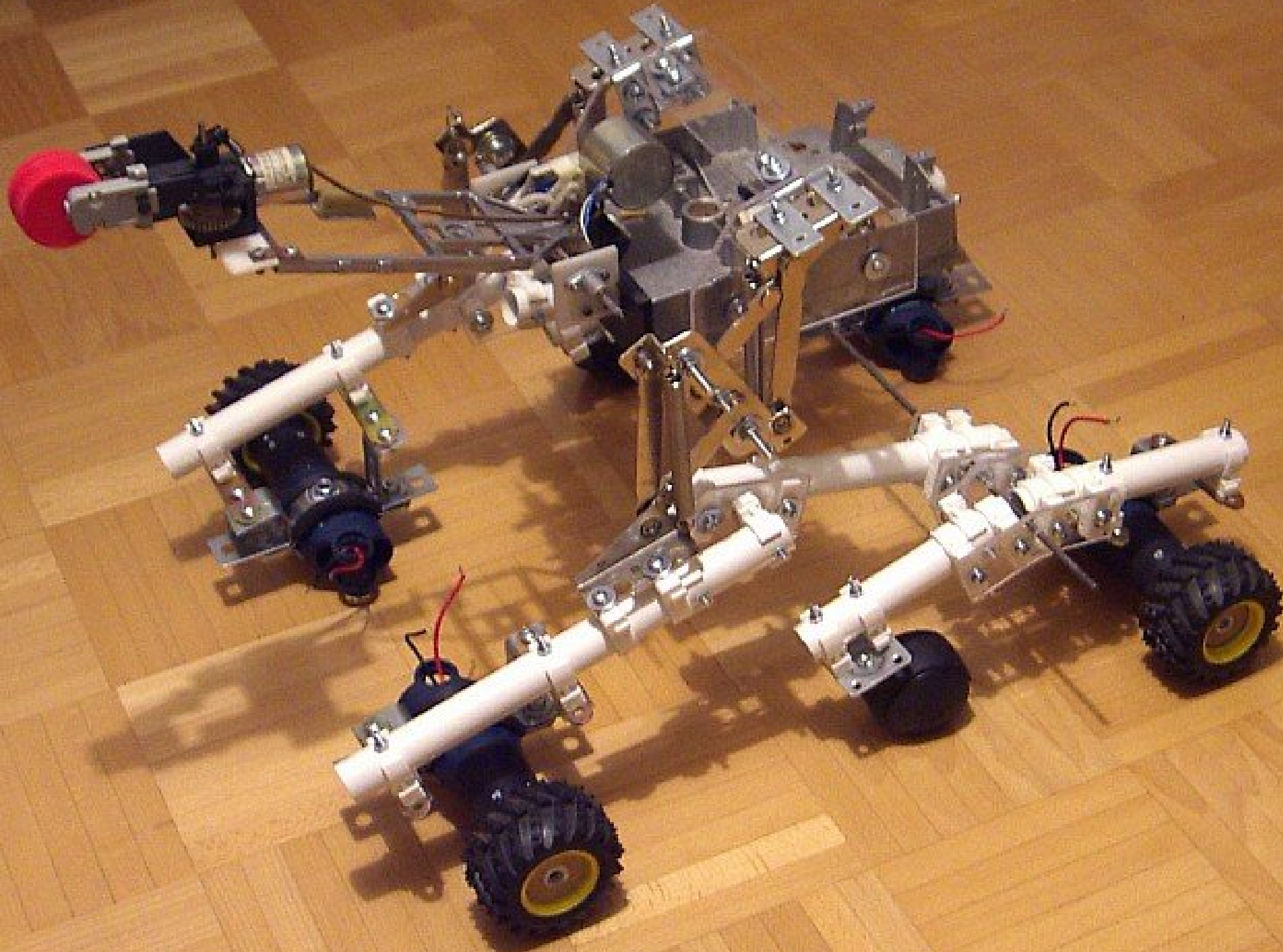
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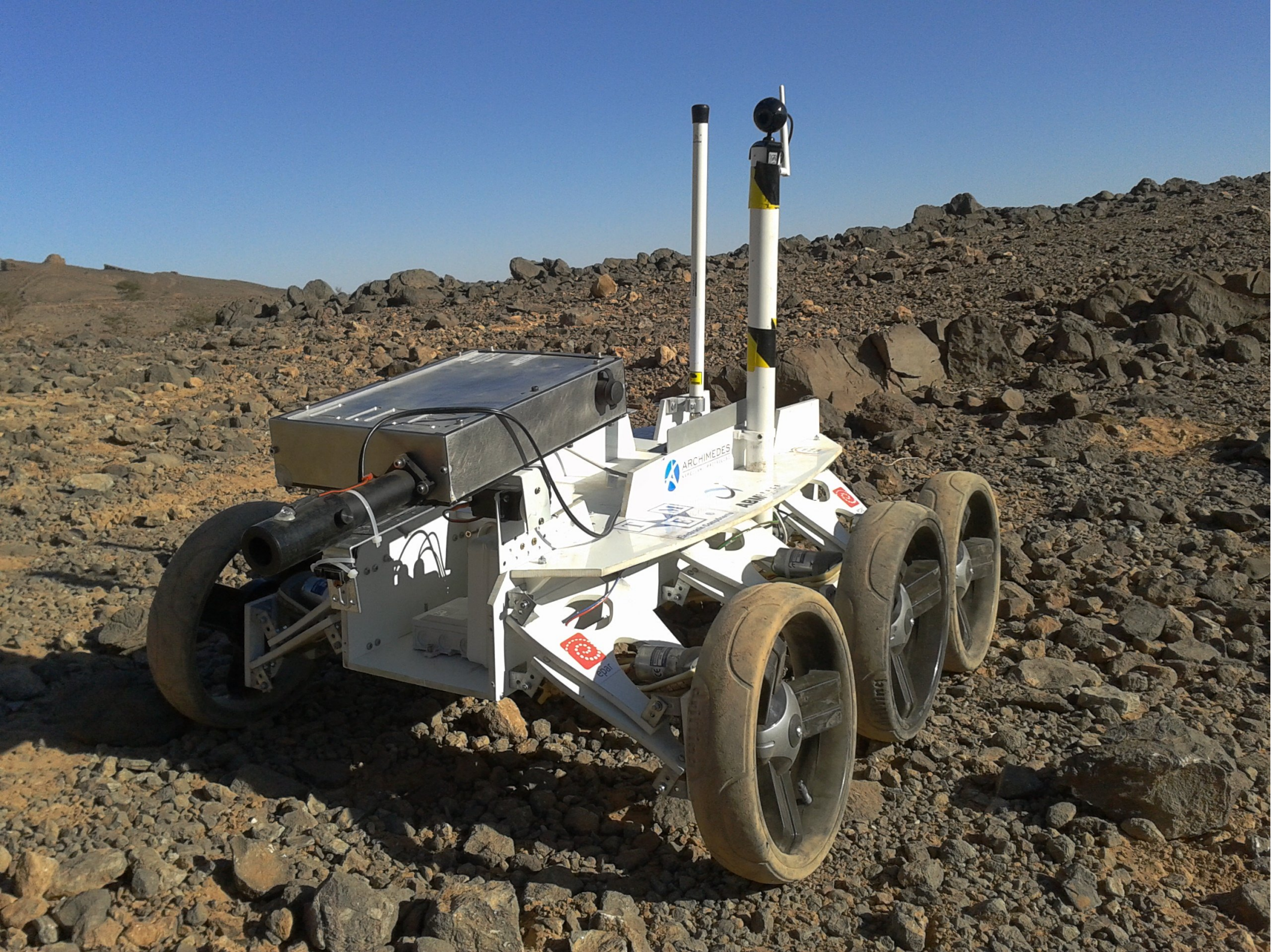
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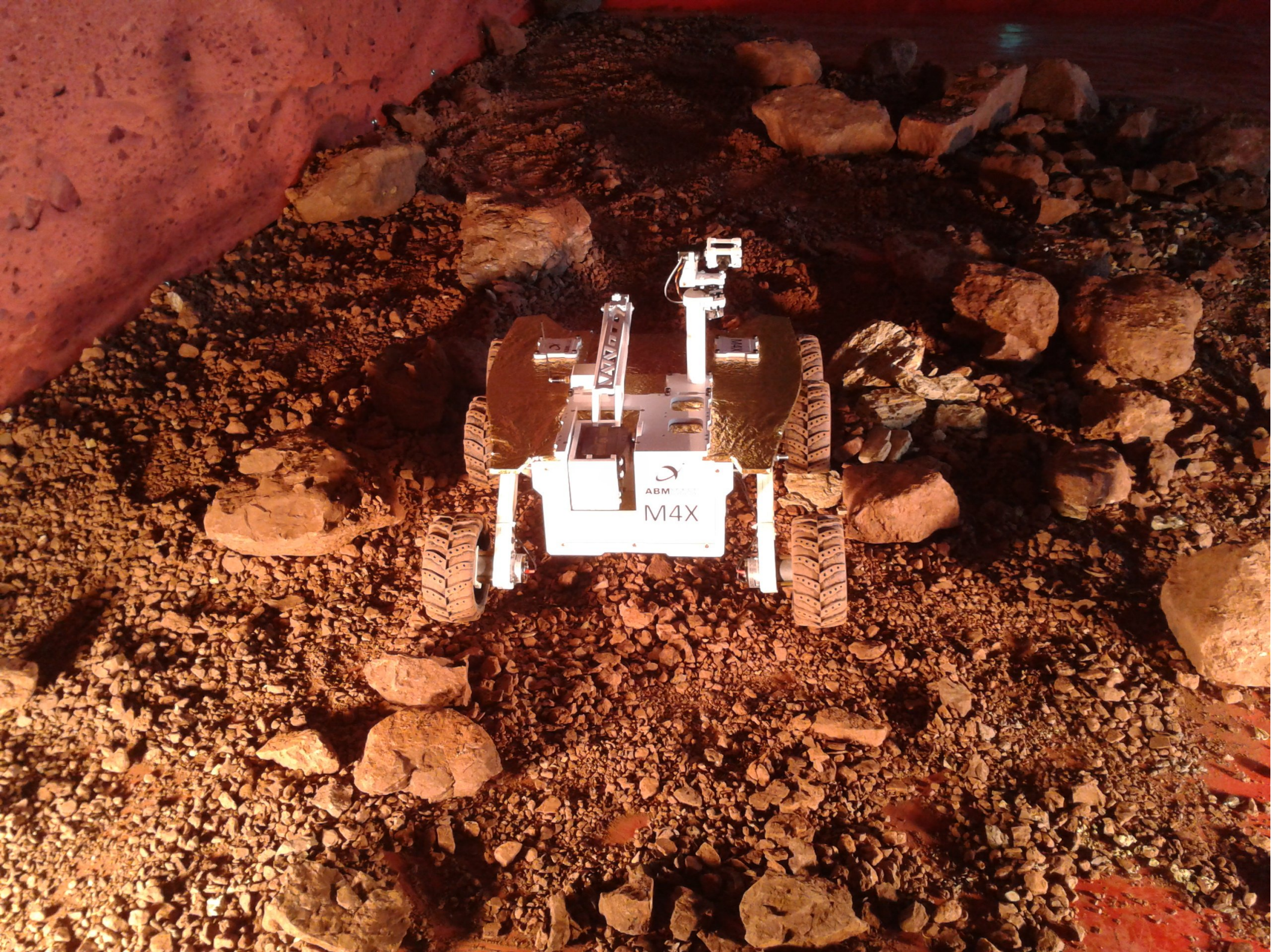














POLSKA WYŚWIETLANIA

MARS SOCIETY POLSKA



Engage and Guide

Consider writing letters of support to the
Ministries

Thank you!

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