

### Special transformation mechanisms in drives with electronic cams

The aim of the planned task is to create knowledge, skills and practices (know-how) for an effective implementation of designs, construction, materials, technologies and manufacture of gear mechanisms with constant gear realizing displacement diagrams of electronic cams to linear and rotational motions of single-purpose machine mechanism working links with high durability, positional accuracy and working motion dynamics in the mode of indirect measurement. The work will focus on the realization of the prototypes of linear units and rotary tables. The partial aim will be a design of SW modules of the control system of electronic cams, which will be able to correct inaccuracies in the manufacturing of mechanical components or to compensate a positional error of a working link.

Code	FV20547
State providing funder	Ministry of Industry and Trade of The CR <a href="https://www.mpo.cz/en/">https://www.mpo.cz/en/</a>
Programme	FV – TRIO (2016-2022)
Total eligible costs	10 768 000 CZK
Total project subsidy	8 068 000 CZK
Subsidy FME TUL	2 937 000 CZK
TUL project number	17778
Contractor	VÚTS a.s. <a href="https://www.vuts.cz/vuts-2.html">https://www.vuts.cz/vuts-2.html</a>
Project participant	TUL, Faculty of Mechanical Engineering
Principal investigator TUL	Ing. Totka Nikolaeva Bakalova, Ph.D.
Department	Department of Material Science <a href="http://www.fs.tul.cz/en/materials/research-and-innovations/">http://www.fs.tul.cz/en/materials/research-and-innovations/</a>
Period	2017-2020

<https://www.rvvi.cz/cep?s=jednoduche-vyhledavani&ss=detail&n=0&h=FV20547>

Costs (year) TUL	2017	2018	2019	2020	Total
Non-investment (CZK)	815 000	946 000	926 000	250 000	2 937 000
Investment (CZK)	0	0	0	0	0
<b>Total (CZK) TUL</b>	<b>815 000</b>	<b>946 000</b>	<b>926 000</b>	<b>250 000</b>	<b>2 937 000</b>

#### Project results [EN](#)

2018	Proven technology	<a href="#">RIV/46709002: _____/18:N0000038 - Ověřená technologie výroby speciálního kluzného uložení trapézového šroubu (2018)</a>
2018	Proven technology	<a href="#">RIV/46709002: _____/18:N0000039 - Ověřená technologie výroby kluzného lineárního rybinového (trojbokého) vedení (2018)</a>
2018	Patent	<a href="#">RIV/46709002: _____/18:N0000162 - Polohovatelný otočný stůl (2018)</a>
2018	Patent	<a href="#">RIV/46709002: _____/18:N0000162 - Polohovatelný otočný stůl (2018)</a>
2018	Article	<a href="#">RIV/46709002: _____/18:N0000194 - Rotary table accuracy improvement (2018)</a>
2018	Article	<a href="#">RIV/46709002: _____/18:N0000194 - Rotary table accuracy improvement (2018)</a>
2018	Article	<a href="#">RIV/46747885:24210/18:00005128 - Cathodic Arc Deposition of TiCN Coatings - Influence of the C2H2/N2 Ratio on the Structure and Coating Properties (2018)</a>
2018	Article	<a href="#">RIV/46747885:24210/18:00005128 - Cathodic Arc Deposition of TiCN Coatings - Influence of the C2H2/N2 Ratio on the Structure and Coating</a>

		<a href="#"><u>Properties (2018)</u></a>
2018	Article	<a href="#"><u>RIV/46747885:24620/18:00005128 - Cathodic Arc Deposition of TiCN Coatings - Influence of the C2H2/N2 Ratio on the Structure and Coating Properties (2018)</u></a>