

CEMMPRE

Centre for Mechanical Engineering, Materials and
Processes

Projects

2019

- 4Additive: Implementation of Advanced Portuguese Additive Manufacturing Systems on Portuguese Industry: systems, tools, software and training. POCI-01-0247-FEDER-021944, 2017. January 2017 at December 2019.
 - 4DComposites: Intelligent molding of 4D components based on carbon-embedded shape memory alloys pre-impregnated with thermoplastic. POCI-01-0247-FEDER-033758, 2018. September 2018 at August 2021.
 - Add.Additive: Add Additive Manufacturing to Portuguese Industry. POCI-01-0247-FEDER-024533, 2018. April 2018 at March 2021.
 - AddPowder: Development of metallic materials adapted to additive manufacturing (FDMet). CENTRO-01-0247-FEDER-039910. August 2019 at July 2022.
 - Advanced Metal-Diamond Composites for thermal. PTDC/CTM-COM/30416/2017. June 2018 at December 2020
 - ALICE: Improving the management of Atlantic Landscapes: accounting for biodiversity and eCosystem sErVICES. Referência: EAPA_261/2016. November 2017 at October 2020.
 - AMConstruction: Additive manufacturing in steel construction, 2019. December 2019 at January 2024.
 - ANIMATE: Advanced Numerical Modelling and Experimental Research on Turbulent and Transitional Flows with Applications to Chemical, Power, Automotive and Aeroengine Industries. PPI/APM/2019/1/00062, 2019. October 2019 at September 2021.
 - ARTTE: Advanced Robotic and Tool Technology, and Eco-efficiency. POCI-01-0247-FEDER-037457, 2018. August 2018 at August 2021.
- Atlantic Geoparks: Interreg Atlantic Area. EAPA_250/2016. May 2017 at October 2020.
- ATRITO- 0: a sinergia entre texturização e revestimentos auto-lubrificantes para contactos mecânicos energeticamente mais eficientes e mais amigos do ambiente, FCT - POCI-01-0145-FEDER-030446, July 2018 at June 2021
 - BIOCriticalMetals: Recognition of microbial functional communities and assessment of the mineralizing potential (bioleaching) for high-tech critical metals, June 2016 at May 2019
 - BioHotMelt: Desenvolvimento de uma nova geração de resinas de base colofónia compatíveis com adesivos hot-melt de base polietileno produzido com catalisadores metaloceno. 2019. July 2018 at June 2021
 - Biorecover; Development of an innovative sustainable strategy for selective biorecover of critical raw materials from Primary and Secondary sources, SEP-210504621. June 2019 at May 2023
 - Bolsa para dinamizar at formação e trabalhos na área das máquinas-ferramenta CNC, November 2019 at November 2021
 - BRIDE: Painel Compósito com Rede Sensorial Integrada para Tabuleiros de Pontes Mistas Aço-Betão. IDT SI QREN 11309, March 2017 at February 2019

- CATARACTUS: Development of a medical device based on ultrasounds for objective cataract characterization and optimal phacoemulsification energy evaluation. PTDC/SAU-SER/28758/2017. July 2019 at June 2021.
 - ClusterStent: Bimetallic clusters for controlled antimicrobial activity on stents. PTDC/CTM-NAN/4242/2014, July 2016 at June 2019
 - COBOTIS: Human-robot interaction for collaborative robotics. PTDC/EMEEME/32595/2017. 2018 at 2021. (
 - ColRobot: Collaborative Robotics for Assembly and Kitting in Smart Manufacturing. HORIZON 2020 (688807). 2016 at 2019.
 - ComMUnion: Net-shape joining technology to manufacture 3D multi-materials components based on metal alloys and thermoplastic composites. HORIZON 2020 (680567). 2016 at 2019.
 - CONTROLLUB: Smart self-lubricant coatings with controlled release of the lubricious agent for high temperature applications. Ref. "UTAP-EXPL/Ntec/0107/2017, November 2018 at October 2019
 - CoolGrafeo: Graphene as a rapid cooling solution of mould (micro) inserts. POI-01-0247-FEDER-017883, 2016. October 2016 at June 2019.
 - CrackFree: Towards self-repairing metallic materials. PTDC/CTM-CTM/29101/2017 (POI-01-0145-FEFER-029101), 2018. July 2018 at June 2021.
- Development of advanced PVD coatings for machining nickel-based superalloys, Ref.^a 441.00, January 2017 at December 2019
- Disperlive: Desenvolvimento de novos dispersantes poliméricos de pigmentos, com estrutura controlada sintetizados por polimerização radicalar por desactivação reversível, SI I&DT 28366, 2019. November 2018 at October 2020
 - DM4Manufacturing: Aligning Manufacturing Decision Making with Advanced Manufacturing Technologies. POI-01-0145-FEDER-016418. 2016 at 2020.
 - EUREKA SMART (EU n.º 042536): AddDies- Advanced Manufacturing Technologies for new dies generation, Contract n.º S0129, April 2019 at March 2022.
 - Exo Bike; Equipamento Biomecânico para Terapia Restauradora e Apoio à Reabilitação. SAICT-POL/24013/2016. September 2017 at September 2019.
 - EZ-SHEET: Easy-to-Use Strategy for the Accurate Material Description in Sheet Metal Forming. PTDC/EME-EME/31216/2017 (POI-01-0145-FEDER-031216), 2018. July 2018 at July 2021.
 - FAMEST: Calçado e Tecnologias avançadas de materiais, equipamentos e software. POI-01-0247-FEDER-024529, 2017. November 2017 at October 2020.
 - FAMTiC: Improvements on the fatigue behavior of additive manufacturing titanium alloys components. July 2018 at June 2021
 - FARO: Fundidos de aço inoxidável com rugosidade otimizada. POI-01-0247-FEDER-033916, 2018. June 2018 at June 2021

- FLUMEN: Promoção e valorização dos recursos turísticos do rio Douro. POCTEP_0067_FLUMEN_DURIUS_2_E. January 2017 at June 2020.
- FRICTION 4.0: Modelling and Control of Frictional Heating. PTDC/EME-EME/32089/2017 (POCI-01-0145-FEDER-032089). 26 July 2018 at 25 July 2021.
- Gear3D: Reconstrução 3D de dentes de engrenagens de grande dimensão via deposição direta por laser. POCI-01-0247-FEDER-039848, 2019. June 2019 at May 2022.
- Greencoat: Green high-performance and low-friction interfaces tailored by the reactivity of novel DLC coatings and ionic liquids- M-ERA-NET2/0014/2016 - August 2017 at July 2020
- Greenfil: Produção de filamentos com degradabilidade controlada, Poci-0-1-247 Feder- 033146, De September 2018 at September 2021
- HardRings: Hard DLC (ta-C) coatings for next generation piston rings of internal combustion engines
- HELPMATE: Sistema Sensor Bioeletromagnético baseado em Eléctrodos de Hidrogel e Magnetómetros Bombeados Oticamente. COOPERAÇÃO TRANSNACIONAL_DAAD. February 2019 at December 2020.
- IfDAMAGEelse: Modelling and numerical simulation of damage in metallic sheets: anisotropic behaviour and tension-compression asymmetry coupled approach for formability prediction. PTDC/EME-EME/30592/2017 (POCI-01-0145-FEDER-030592), 2018. June 2018 at May 2021.
- Innovec'EAU: Resíduos de medicamentos nas descargas de instalações para pessoas idosas (lares de idosos e residências seniores): Riscos, ferramentas de análise e processos inovadores e sustentáveis de tratamento SUDOE - SOE1/P1/F0173, July 2016 at June 2019
- INNOVINE&WINE: Plataforma de Inovação da Vinha e do Vinho. NORTE-01-0145-FEDER-000038
- INOVSTONE 4.0: Tecnologias Avançadas e Software para a Pedra Natural. January 2017 at December 2019.
- IN-SITU-CAST: Produção in-situ de compósitos de matriz metálica em componentes vazados para aplicações resistentes ao desgaste. POCI-01-0247-FEDER-033417, 2018. September 2018 at August 2020..
- INTEGRADDE: Intelligent data-driven pipeline for the manufacturing of certified metal parts through Direct Energy Deposition process. HORIZON 2020 (820776). 2018 at 2022. (12 meses em 2019)
- INTERACT: Integrative Research in Environment, Agro-Chains and Technology. Norte-01-0145-FEDER-000017.
- LUBSYSTECH: Sistema integrado de gestão da lubrificação e análise de condição baseado na monitorização da qualidade e desempenho de lubrificantes industriais. September 2018 - september 2020

- MATERBAT: Baterias de lítio com electrólito vítreo supercondutor. PTDC/CTM-ENE/2391/2014 - POCI-01-0145-FEDER-016854, 2016. July 2016 at April 2020.
 - MiconCell: Células solares microconcentradoras de filmes finos. POCI-01-0145-FEDER-028922, 2018. July 2018 at June 2021.
 - MicroMiner: Microbiological technologies in mining and recycling of high-tech critical metals. POCI-01-0145-FEDER-031820, July 2018 at June 2021.
 - MsCor: Metodologias Multi-escala com Modelos de Rdução de Ordem. NORTE-01-0145-FEDER-032419, 2018, July 2018 at July 2021.
 - NANO4BIO: Nanopartículas plasmónicas para deteção biológica, FCT - POCI-01-0145-FEDER-032299, July 2018 at June 2021
 - Nanosensing: Filmes finos semicondutores do tipo nanocompósito, compostos por nanopartículas de metal nobre dispersos em matrizes reativas, óxido-metal para aplicações em detetores de gases com base em ressonância de plasmões de superfície, POCI-01-0145-FEDER-016902, July 2016 at December 2019
 - NanoTiC: Nanoining of Titanium to Ceramics.PTDC/CTM-CTM/31579/2017 (POCI-01-0145-FEFER-031579), 2018. July 2018 at June 2021.
- NanoTiC: Nanoligação de Titânio a Cerâmicos. POCI-01-0145-FEDER-0315792018, July 2018 at July 2021.
- NESPLA: Novas plataformas de sensores eletroquímicos para sondas analíticas, POCI-01-0145-FEDER-016847/PTDC/QEQ-QAN/2201/2014, June 2016 at May 2019
 - NHyNUS: Novel Hybrid Ultrasonic-Stirring Casting Process of Nano-Reinforced Lightweight Alloys. NORTE-01-0145-FEDER-030967, 2018. July 2018 at July 2021.
 - NiDeTe: Desenvolvimento de ligas de Níquel para aplicações de desgaste e temperaturas elevadas. POCI-01-0247-FEDER-039836, 2019. March 2019 at February 2022.
 - ON-SURF: Mobilizar competências tecnológicas em Engenharia de Superfícies. POCI-01-0247-FEDER-024521, November 2018 at October 2021
 - PAMI: Portuguese Additive Manufacturing Initiative. CENTRO-01-0145-FEDER-022158, 2017. June 2017 at April 2020.
 - POLYCEL: Novos copolímeros de celulose por técnicas de polimerização controlada. POCI 0-1-0145, Feder-029742. July 2018 at July 2021
 - PROCOATING: Processos avançados de revestimentos. POCI-01-0247-FEDER-017950, January 2017 at December 2019
 - Programa de Ações Universitárias Integradas Luso-Francesas (PAULF/PESSOA): Desenvolvimento de modelos de comportamento termomecânico com recurso ao ensaio de expansão equibiaxial. 2018. January 2018 at December 2020.
 - PTDC/EMS-PRO/1356/2014, improving the mechanical performance of hybrid functional components obtained by sintering laser, July 2016 at June 2019

- PT-W: Biotools for a sustainable supply of tungsten from biorecovery to bioleaching and biorecovery. August 2016 at July 2020
- RIFORMING: Robust Design of Sheet Metal Forming Processes to Reduce Productivity Losses. PTDC/EME-EME/31243/2017 (POCI-01-0145-FEDER-031243), 2018. June 2018 at May 2021.
- reGrafitti: From graphite waste, to graphene reinforcement - a new way for the manufacture of nanocomposites. POCI-01-0247-FEDER-017742, 2016. October 2016 at March 2019.
- RformBplates: Improving the manufacturing of metallic bipolar plates for fuel cells using the rubber forming process. PTDC/EMS-TEC/0702/2014 (POCI-01-0145-FEDER-016779). May 2016 at April 2019.
- SafeForming: Sistema inteligente de prevenção de defeitos em componentes estampados a frio. POCI-01-0247-FEDER-017762, 2017. January 2017 at June 2019.
- Safesurf: Light activated permanent antimicrobial surfaces. PTDC/CTMPOL/6138/2014, 2019, July 2016 - June 2019.
- ShellMould: Um novo conceito de molde integrador para maximizar a produção de embalagens de vidro - afirmação no mercado internacional. POCI-01-0247-FEDER-039913. October 2019 at September 2022
- Shellution: Development of ECO-Innovative Products by Incorporating Biogenic Calcium Carbonate (Wastes) POCI-01-0247-FEDER-033657. July 2018 at June 2020.
- Sim2AM: Computational methods for optimizing the SLM additive manufacturing process. PTDC/EME-EME/31657/2017 (CENTRO-01-0145-FEDER-031657). June 2018 at June 2021.
- SMARTEDGE: Desenvolvimento de ferramentas inteligentes, CENTRO-01-0247-FEDER-017577, October 2016 at September 2019
- SMARTLUB: Smart self-lubricant coatings with controlled release of the lubricious agent for high temperature applications, POCI-01-0145-FEDER-031807, 2018. July 2018 at May 2021
- Stretchronics: Soft and Stretchable Mechatronics for Wearable Devices: Fabrication, Implementation and Applications. CMUP-ERI/TIC/0021/2014, 2019, January 2016 at January 2020
- TANDEM: Thick, adherent stress-free DLC coatings for demanding applications
- TATACELL: Joint solution development for robust operation of the LMD cell. TATA/UC/3DC, 2019, October 2019 at March 2021
- TherMechChar-XSteels: Toward virtual forming and design: Thermomechanical characterization of high strength steels through full-field measurements and a single designed test. PTDC/EME-APL/29713/2017 (POCI-01-0145-FEDER-029713), 2018. June 2018 at May 2021.

- TOOLING4G: Advanced Tools for Smart Manufacturing. POCI-01-0247-FEDER-024516, 2018. March 2018 at February 2021.
- TOOLMAX: Gestão e Maximização do Tempo de Vida da Ferramenta de Corte - POCI-01-0247-FEDER-039884, July 2019 at June 2022
- TRIBOS: Joint European Master of Tribology of Surfaces ad Interfaces, Ref.: 532535-1-SI-2012-1-ERA, July 2014 - July 2019
- UNI+I: Cooperação transfronteiriça Norte de Portugal - Castela e Leão para promover o empreendedorismo inovador e a competitividade das empresas. POCTEP_0050_UNI_PLUS_I_2_P. April 2017 at December 2020.
- USECoIN: Evolução estrutural de Interligações de cobre avançadas para aplicações nanoeletrónicas. PTDC/CTM-CTM/31953/2017, 2018. September 2018 at August 2021
- VinylGreen: Produção de tubos de PVC isento de ftalatos. QREN Co-Promoção 17789, 2019. January 2017 at December 2019
- Watch4ming: Monitoring the stamping of advanced high strength steels. PTDC/EMS-TEC/6400/2014 (POCI-01-0145-FEDER-016876), 2016. May 2016 at October 2019.
- WaterSHAPE: Shape Adaptative Projectile for High Performance Water Assisted Injection Moulding Process. POCI-01-0247-FEDER-003383, 2016. January 2016 at June 2019.
- 3D-2-4D: 3D to 4D printing: can bacterial cellulose make the bridge? POCI-01-0145-FEDER-030767(PTDC/CTM-COM/30767/2017) From June 2018 to June 2021.