



Fellow	Host Institution No.1: University of Seville Host Institution No.2: Siemens Energy	Country: Spain Country: Germany
DC17	Supervisor: Prof. David Sánchez Martínez Co-supervisor: Dr. Stefan Glos	WP No: 3
Title: Innovative turbine designs for enhanced flexibility of megawatt scale axial sCO ₂ turbines		
Research Objectives: (1) To explore innovative turbine designs aimed at improving the dynamic characteristics of sCO ₂ turbines. (2) To explore flowpath designs enhancing the turndown capabilities of sCO ₂ turbines. (3) To explore turbine designs aimed at reducing thermal stress during transients, therefore increasing component lifetime. (4) To produce off-design performance maps for the optimised flow path.		
Mobility rules (eligibility of applicants): more information here		
<ul style="list-style-type: none"> • Researchers funded by Doctoral Networks should comply with the mobility rules: in general, they must not have resided or carried out their main activity (work, studies, etc.) in the country of the recruiting organisation for more than 12 months in the 36 months immediately before their recruitment date¹. • In addition, they: <ul style="list-style-type: none"> ○ must not have a doctoral degree at the date of their recruitment. ○ can be of any nationality. 		
Applicant - specifications: in addition to the general specifications (eligibility criteria) listed above, the applicant must feature the following requirements:		
<ul style="list-style-type: none"> • Earned degree: <ul style="list-style-type: none"> ○ MSc in Mechanical or Aerospace Engineering (or related area). Preference will be given to candidates with a major in energy or related areas • Background (mandatory): <ul style="list-style-type: none"> ○ Thermodynamics / Aerodynamics ○ Turbomachinery design and analysis ○ Power plant engineering (design and analysis) ○ Fundamentals of programming • Additional background that will be valued in the selection process: <ul style="list-style-type: none"> ○ Optimisation techniques in engineering systems ○ Matlab/Python programming ○ Transient simulation and analysis of energy systems ○ Fundamentals of CFD ○ Material science 		

¹ This rule applies to the first contract only (University of Seville)





<ul style="list-style-type: none">• English language:<ul style="list-style-type: none">○ A certified C1 level of English is required
<p>Scheme:</p> <ul style="list-style-type: none">• M1-M24: the applicant is employed by University of Seville• M19-M24: the applicant is seconded to SoftInWay• M25-M36: the applicant is employed by Siemens Energy, without undergoing another selection process
<p>Locations (place of work):</p> <ul style="list-style-type: none">• M1-M18: the applicant will be employed by University of Seville and located at the Department of Energy Engineering: Escuela Técnica Superior de Ingeniería (ETSI) - School of Engineering Camino de los descubrimientos s/n 41092 Seville (Spain) Google Maps: link• M19-M24: the applicant will be seconded to SoftInWay: SoftInWay Inc GmbH Baarerstrasse 2, 6300 Zug (Switzerland) Google Maps: link• M25-M36: the applicant will be employed by Siemens Energy: Siemens Energy Rheinstraße 100, 45478 Mülheim an der Ruhr (Germany) Google Maps: link
<p>Planned secondments: DC7 is expected to carry out the following secondment:</p> <ul style="list-style-type: none">• SoftInWay: carry out mechanical analysis in the transient conditions relevant to the DC
<p>How to apply: submit application package (see below) to Prof. David Sánchez ds@us.es before May 31st 2023, 17:00 h CET.</p> <p>The Application Package is comprised of:</p> <ul style="list-style-type: none">• CV Europass (https://europa.eu/europass/en/create-europass-cv)• Letter of motivation• <i>Analysis of the challenges faced by the energy sector to accomplish Carbon Neutrality by 2050, and the associated needs for technology development</i> (max 3 pages)• Short video (less than 2min): <i>why I should be selected for the position</i>. The candidates should address some of the following questions:<ul style="list-style-type: none">○ D1: Why did you decide to apply for a position in ISOP?○ D2: What do you expect/want to gain from an MSCA programme?○ D3: How do you think you can add value to an MSCA programme?○ D4: Summarise your strengths and weaknesses.





- D5: Describe a time when you had to deliver a challenging project. What was your role and what was the outcome?
- D6: Where do you see yourself in 10 years?
- D7: Why should you be selected for the position?
- Letters of recommendation (not mandatory)
- The application package must not exceed 15 Mb

Contract:

- Start date (estimate): September 2023
- Type: full-time exclusive
- Annual gross salary:
 - University of Seville: € 34,128.59
 - Siemens Energy: € 38,378.00
- An additional (family) allowance is available for candidates who have family obligations (applied from and until this condition applies)

Equal Opportunity Employers:

University of Seville and European Turbine Network are Equal Opportunity Employers. We believe that no one should be discriminated against because of their differences, such as age, disability, ethnicity, gender, gender identity and expression, religion or sexual orientation. All employment decisions shall be made without regard to age, race, creed, color, religion, sex, national origin, ancestry, disability status, sexual orientation, gender identity or expression, genetic information, marital status, citizenship status or any other basis as protected by European laws.

