GIANPIERO DI GIROLAMO

SUMMARY

- Robust background in data center ICT and demonstrated expertise in designing, developing, and managing data center facilities, ensuring operational efficiency
- Possess a track record of successful leadership and strategic planning, coupled with a commitment to continuous improvement and innovation.
- Proven ability to collaborate effectively with cross-functional teams and adapt to evolving challenges.

Key competencies include:

- Data Center Management: Proficient in overseeing complex data center infrastructure, including hardware, software, and operational processes
- IT Governance & Risk Mitigation: Experienced in applying and evolving IT Governance and risk mitigation strategies to safeguard sensitive information and ensure compliance with applicable standards.
- Leadership & Collaboration: Skilled in leading diverse teams, fostering collaboration, and driving strategic initiatives to achieve organizational goals.
- Continuous Improvement: Committed to driving innovation and process optimization to enhance operational efficiency and adaptability in dynamic environments.
- Adaptability & Openness: Embraces challenges and opportunities for learning and growth, with a proactive mindset towards expanding expertise into new domains

EXPERIENCE

Space Safety Programme - Data Centre Manager , **01/2017 - Current**
ESA European Space Agency - Darmstadt, Germany
ESA Data Centre Manager in the Space Safety Programme, Directorate of Operations.

Brief work description

Under the direct authority of the Programme Manager, I am responsible for the specifications, developments and management of the main data centres of the Space Safety system within ESA Establishments and interfacing with Space Safety data centres of the Participating States.

Current Work Duty

- Design, development and management of the Space Safety Data Centre facilities in close coordination with the Space Safety Offices for Space Weather, Near Earth Orbit and Surveillance and Tracking;
- Development and enhancement of Expert Service Centers (ESCs) in close coordination with the Programme Offices Managers;
- Procurement of the required computer platforms as well as communication and informatics infrastructure using when possible services in place;

CONTACT

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SKILLS

- System Engineering
- Procurement Management
- Project Management
- Complex Asset Management
- Data Centre Operations
- IT Services, IT Evolution, IT engineering, IT Operations
- Hybrid (Cloud, One Premises, Physical) Infrastructures
- CI/CD Infrastructure (git based)
- Systems and Automation Applications
- Automated & controlled Process flow
- DevOps, DataOps, DevSecOps
- Agile methodology
- Team Leadership
- Staff Mentoring
- Team Motivation

LANGUAGES

Italian: First Language
English: C1

- Development, test and validation of SW applications according to the requirements established by the Programme Office managers for the delivery of Space Weather, Near Earth Orbit and Surveillance and Tracking;
- Development, test and validation of data acquisition and processing chains for Space Safety sensors such as radars, telescopes and space-based systems;
- Participation in test and validation campaigns of the complete Space Weather, Near Earth Orbit and Surveillance and Tracking Operational and R&D Software;
- Participation in the development of international standards in the areas of Space Surveillance and Tracking, Space Weather and Near Earth Orbit.

On demand I attend and provide offline support to ESA Ministerial & Programme Boards.

For the execution of the above tasks, I coordinate and interface with functional support of staff from other Departments and as well as of dedicated industrial contracts.

Asset Managed

The IT infrastructure managed comprises HW and SW infrastructures hosted in three dislocated Data Centre at three ESA premises (Darmstadt-D, Frascati-I, Redu-B) comprising:

- > 200 physical&virtual HW items
- > 40 software projects
- > 300 of heterogeneous software repository.

Major Achievements

- Visioned and implemented the transition of the Programme's IT assets and related engineering model and management processes to an agile DevOps approach. This transition was driven by the necessity to handle a high volume of heterogeneous hardware and software components, requiring continuous design, integration, validation, and evolution.
- Led the ESA Space Safety Programme in pioneering the adoption of controlled automated software management processes through CI/CD infrastructures. Piloted and anticipated the full adoption of a DevOps working model methodology, particularly evident in the Planetary Defence segment.
- Initiated the transition in late Q3 2018, which rapidly ramped up and delivered remarkable results by the end of 2019 and the beginning of 2020, enabling operational continuity during the COVID-19 pandemic. The implementation of CI/CD and new software management processes, driven by git-based pipelines, ensured the ESA Space Safety Programme remained unaffected by pandemic-related measures that could have otherwise severely impacted software delivery, integration, testing, deployment, and related operations.
- Currently leading a stepwise transition with the team from owned physical and private cloud hardware assets toward ESA Corporate and Third Party Cloud services.
- Spearheading the evolution of data-driven processes and applications towards modern and advanced Data Management under the DataOps working model, complemented by similar advancements in Security management under the DevSecOps model.
- Utilizing my operational expertise and analytical capabilities, I introduced innovative elements into the Programme, previously nonexistent, thereby enhancing its value proposition. This included the establishment of new components such as the Space Weather

Advanced
Spanish: C1

Advanced
German: B2

Upper Intermediate
Portuguese: B1

Intermediate
French: A2

Elementary

CERTIFICATIONS

- 2009 ITIL Version 3 Foundation Examination (Certification)

EDUCATION

Master of Science, **Computer Science**, **1986**
Universita degli Studi di Pisa - Pisa

- ICT Solutions Architect
- Artificial Intelligence
- Software programming, Principles and Technologies
- Data Base Management Systems
- Computational Linguistic
- Macro/Assembler
- Path optimizations

Payload Data Centre and the Space Weather and Planetary Defense Data Hub.
- Leadership and active contribution to the definition of the ESA Planetary Defence Operational Concept (NEO object monitoring, sky survey and detection follow-up)

Keywords: Vision, Leadership, Project Management, Asset Management, System Engineering, DevOps, DevSecOps, Agile, Data Centre Operations, IT Services, IT Evolution, IT engineering, IT Operations, Hybrid (Cloud, One Premises, Physical) Infrastructures, DataOps, CI/CD, Automated Process flow, Automated & controlled Process flow, Engineering Standard Evolution

Data System Manager , **01/2010 - 12/2016**
ESA European Space Agency - Darmstadt, Germany
Following up the success of Scientific Satellite Missions, I assumed the role of Data System Manager for Third Party missions broadening my vision and enhancing collaboration with ESA Partner Organization (EUMETSAT).

- I have been responsible for the procurement, validation and deployment of the METOP-B and MSG-4 Mission Control Systems and to support to both missions Launch and Early Orbit Operation (LEOP) Services.
- At the same time I was appointed as Data System Engineer Architect within the Space Situational Awareness Programme (SSA). Where I played a key role in defining IT requirements and designing common infrastructures for the program.
- Additionally, I provided engineering support to the Near Earth Object (NEO) Segment, contributing to the first deployment of NEO-specific applications and shaping the SSA NEO Operation Concept. I actively participated in formulating working procedures at the NEO Coordination Centre (ESRIN-Frascati).
- I have also been part of the GALILEO Team, alternating between prime and deputy Data System Manager roles and I played a crucial role in all Galileo Satellite constellation launches, adapting the LEOP preparation working model to support iterative and closely spaced launches. This facilitated a seamless transition from two spacecraft launches to four spacecraft launches using the A5 launch vehicle.

Keywords: Peer with Partner Organizations, Operations within GALILEO Constellation repeated Launches, contribution to Space Situational Awareness Programme precursor phase, EU Partner collaboration, IT Requirement definition, Industrial Procurement,

Mission Control System Technical Officer, **01/2003 - 12/2009**
ESA European Space Agency - Darmstadt, Germany

- I served as the Data System Manager overseeing the development of the Herschel Planck Mission Control System. Responsibilities included managing Mission Control System and Simulator, supporting Integral satellite Routine Operations, and ensuring compatibility with evolving spacecraft designs. I played a crucial role in defining system requirements, supporting the Mission Operation team, and collaborating with the Ground Segment Manager to address design and interface issues.
- Appointed as Project Manager for the Linux Transition Project, I designed, installed, and validated an interim solution enabling the use of the Linux MCS client reference platform. Additionally, I designed and developed a knowledge base system used at ESA from 2000 to 2015 as a project management tool, anticipating

modern problem and change management, and agile project management software.

Keywords: Spacecraft Simulators, Software Project Management Tools Design&Development, Missions Requirement analysis, System design, Mission Critical Operations

Software Engineer, **11/1987 - 12/2002**
ESA European Space Agency - Darmstadt, Germany

- Started at ESA in 1987 as a Junior Engineer, I specialized in software design, development, and testing within the Engineering Division. Progressing to the Software Support Team, I contributed to the design and development of various software subsystems, gaining expertise in Satellite Mission Control Systems.
- I participated in critical mission phases, including the Satellite Retrieval – the first and unique satellite launched and returned to Earth
- As the Integral Mission Control System technical officer, I reported directly to the Mission Ground Segment Manager and played a pivotal role in developing, testing, and supporting the Integral satellite mission control system. This project marked a strategic milestone as the first user of a new ESA software infrastructure for Satellite Monitoring & Control.

Keywords: Satellites Mission Control System. Mission Planning System (Satellite limited resource usage optimization), software engineering, software development, Space Satellite Operations

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ADDITIONAL INFORMATION

Publications & Presentations

- 1994 ESA Bulletin no. 78 "Using advanced MMI techniques for Telemetry monitoring - The EURECA experience"
- 1994 Above work presented in the EURECA Work-Shop at ESTEC
- 1994 Demo on the above subject at Spaceops'94 - Washington
- 1996 Space Science Review Journal (co-author) "The CLUSTER Data Processing System: A distributed system in support of a challenging mission" (co-author) also published in the "The Cluster and Phoenix Mission" Kluwer Academic Publishers ISBN 0-7923-4411-1
- 1996 Spaceops 96 Munich "The CLUSTER Mission Control System: a distributed architecture for a real-time critical and multiple spacecraft control system"
- 1998 Spaceops 98 Tokyo “The INTEGRAL Mission Control System (IMCS): low-cost design for a complex ground segment”
- 1998 Spaceops 98 Tokyo “The INTEGRAL On-Board Software Maintenance concept” (co-author)
- 2000 Spaceops 2000 Toulouse “INTEGRAL Mission Control System (IMCS): technology and integrated solutions for supporting a complex scientific mission”
- An amended version of the article above has been presented at EuroMicro 2001, Warsaw, September 2001
- 2002 Spaceops 2002 Houston “Integral Mission Control System: an example of flexible integrated solutions supporting a complex and evolving Ground Segment” - October 2002
- 2006 Spaceops 2006 Rome “The Herschel-Planck Mission Data System: New approaches and the smooth transition concept”
- 2010 Spaceops 2010 “Herschel-Planck Mission Data System a remarkable
- Collection of Challenges”

- 2017 PDC 2017 Tokyo, Poster “Integration of Data Systems within the ESA SSA Programme”
- 2017 ESAW Darmstadt (D) “Continuous Integration in SSA federated/distributed development”
- 2018 SpaceOps 2018 Marseille (F) “SSA Data System evolution towards Hybrid Architecture”
- 2019 SpaceOps @CSA Montreal
- · “SSA Software Development under DevOps model @ NEO Coordination Centre”
- · “SSA Data Management Evolution”
- 2019 ESAW Darmstadt (D) “Software Development, Maintenance and Operation Evolution to DevOps within ESA Space Safety“

Courses&Certifications (most recent only)

- 2009 ITIL Version 3 Foundation Examination (Certification)
- 2010 Spacecraft Systems Engineering Course
- 2014 Security Principles for Software Engineering
- 2014 Agile Scrum “Product Owner” Workshop