

# Quang-Trung LUU

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## RESEARCH INTERESTS

**Computing:** Cloud/edge computing, coflow management, deadline-aware task scheduling

**Intelligence:** Applied AI/ML for networking (deep learning, deep reinforcement/reinforcement learning)

**Networking:** 5G and beyond, network slicing, open radio access network (O-RAN), IoT

## ACADEMIC EXPERIENCES

2025–pres	<b>Associate Professor</b> , CentraleSupélec, Paris-Saclay University .....	Paris, France
2023–2025	<b>Assistant Professor</b> , Hanoi University of Science and Technology .....	Hanoi, Vietnam
2021–2022	<b>Postdoctoral Fellow</b> , French National Centre for Scientific Research (CNRS) .....	Toulouse, France
2017–2021	<b>Doctoral Fellow</b> , CentraleSupélec, Paris-Saclay University.....	Paris, France
2017–2020	<b>Research Engineer</b> , Nokia Bell Labs.....	Paris, France
04–09/2017	<b>Research Intern</b> , Inria & Ecole Normale Supérieure .....	Lyon, France

## EDUCATION

2017–2021	<b>Ph.D. in Information &amp; Communication Networks</b> , CentraleSupélec–Paris-Saclay University
	Thesis: <i>Dynamic Control and Optimization of Wireless Virtual Networks</i> ( <b>GDR-RSD Best Ph.D Award</b> )
	Advisors: Prof. <a href="#">Michel Kieffer</a> (Paris-Saclay) and Dr. <a href="#">Sylvaine Kerboeuf</a> (Nokia Bell Labs)
2016–2017	<b>M.Sc. in Multimedia Networking</b> , Paris-Saclay University & Télécom Paris
	Thesis: <i>Optimization of 802.11-based Wireless Networks</i>
	Advisors: Profs. <a href="#">Anthony Busson</a> and <a href="#">Isabelle Guérin-Lassous</a> (Univ. Lyon 1)
2015–2016	<b>M.Sc. in Antennas and Telecom Devices</b> , Paris-Saclay University
	Thesis: <i>Wireless Power Transfer for Implantable Medical Devices</i>
	Advisors: Profs. <a href="#">Antoine Diet</a> , <a href="#">Yann Le Bihan</a> (Paris-Saclay), and <a href="#">Stavros Koulouridis</a> (Univ. Patras)
2008–2013	<b>B.Sc. in Electronics and Telecoms</b> , Hanoi University of Science and Technology (HUST)
	Thesis: <i>Optimization of Resonator Configuration for Wireless Power Transmission Systems</i>
	Advisors: Profs. <a href="#">Cao-Minh Ta</a> and <a href="#">Yem Vu-Van</a> (HUST)

## GRANTED PROJECTS

2025–2028	<b>Developing distributed video processing system for smart cities</b>
	Budget: ~ \$391K. Funded by the Vietnamese National Program KC-01. Role: Co-investigator.
2025–2026	<b>Resource optimization for network slicing in next-generation mobile networks</b>
	Budget: ~ \$23.6K. Funded by the Government of Vietnam (MOET). Role: PI.
2024–2026	<b>Enhancing the performance of 6G Open RAN integrating edge computing and network slicing</b>
	Budget: ~ \$71K. Funded by the Government of Vietnam (NAFOSTED). Role: Co-PI.
2023–2026	<b>Typhoon formation prediction using machine learning</b>
	Budget: ~ \$166K. Funded by VinIF Foundation. Role: Co-investigator.

## SUPERVISION

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### Doctoral Students

- 2026–2030 **Minh-Thanh Nguyen**, Trinity College Dublin  
(co-advised with Prof. Van-Dinh Nguyen)  
Topic: Multi-agent Deep Reinforcement Learning
- 2023–2027 **Tuan-Vu Truong**, University of Technology Sydney and VinUniversity  
(co-advised with Prof. Diep Nguyen and Prof. Van-Dinh Nguyen)  
Topic: Resource allocation for network slicing in open radio access network (Open RAN)
- 2023–2027 **Minh-Tuong Nguyen**, University of Technology Sydney and VinUniversity  
(co-advised with Prof. Diep Nguyen and Prof. Van-Dinh Nguyen)  
Topic: Resource allocation for serverless functions in mobile edge cloud environments

### Master's Students

- 2024–2026 **Kim-Hoan Do**, Hanoi University of Science and Technology  
Topic: Resource allocation for Open RAN slicing
- 2023–2025 **Quang-Lap Luu**, Hanoi University of Science and Technology  
Topic: Machine learning for typhoon formation prediction
- 2021–2022 **Jobayer Morshed & Abdel Ouahd Alouane**, Institut Polytechnique de Paris  
Topic: Scheduling coflows in datacenter networks.
- 2020–2021 **Xavier Goeman & Carlos Guzman**, Institut Polytechnique de Paris  
Topic: Embedding algorithms for network slices dedicated to multimedia services

## HONORS AND AWARDS

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- April 2025 **Professional Fellow**, Asia Pacific Network Information Centre (APNIC)
- July 2024 **Travel Grant Award**, Annual US-ASEAN Symposium on Accelerating Science, Technology, and Circular Innovation in Southeast Asia, organized by the U.S. Department of State, Arizona State University, and Rochester Institute of Technology (top 35 of all ASEAN applicants)
- Dec. 2023 **Best Poster Award**, Asian Internet Engineering Conference (AINTEC)
- May 2022 **Best PhD Thesis on Distributed Systems and Networks**, GDR-RSD & ACM SigOps France
- Oct. 2020 **Publication Award**, Nokia Bell Labs
- Dec. 2019 **Travel Grant**, Global Young Vietnamese Scholars Network
- Dec. 2018 **Student Travel Grant Award**, IEEE Global Communications Conference (IEEE GLOBECOM)
- 2017–2020 **CIFRE Fellowship**, French National Association for Technical Research (ANRT)
- 2015–2016 **IDEX Master's Scholarship**, Paris-Saclay University
- May 2013 **Student Research Prize (first runner-up)**, Hanoi University of Science and Technology

## SKILLS

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- Techniques:** Mathematical programming, optimization, applied AI/ML (e.g., RL/DRL, GNN)
- Coding:** Python, MATLAB, C/C++, Bash scripts
- Tools:** git, ns-3, CPLEX, Jupyter notebook, Microsoft Office, L<sup>A</sup>T<sub>E</sub>X, InkScape
- Libraries:** NetworkX, NumPy, Pandas, PyTorch, scikit-learn, TensorFlow, matplotlib
- Languages:** Vietnamese (mother tongue), English (fluent), French (fluent)

## ACADEMIC SERVICES

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### Organizing Committee:

- Track Chair, [Networks Track](#), 2025 International Conference on Advanced Technologies For Communications (ATC'25)
- Track Chair, [Communication Networks and Systems Track](#), 2024 IEEE International Conference on Communications and Electronics (ICCE'24)
- Session Chair, [Special Session on Recent Advances in B5G/6G Networks](#), 2024 IEEE International Conference on Communications and Electronics (ICCE'24)
- Jury member, [2020 Annual Ph.D Student Workshop of CentraleSupélec](#) (session "AI and networking")

### Member of Technical Program Committee (TPC):

- IEEE Global Communication Conference (GLOBECOM): [GLOBECOM'26](#)
- International Conference on Network of the Future (NoF): [NoF'26](#)
- International Conference on Information Technology and Its Applications (CITA): [Special Session on Sustainable and AI-Enabled Telecommunication Systems for Perception-Aware Connected Societies \(SPACS'26\)](#)
- IEEE International Conference on Communications and Electronics (ICCE): [ICCE'24, ICCE'26](#)
- International Conference on Advanced Technologies For Communications (ATC): [ATC'25](#)
- International Conference on Computing and Communication Technologies (RIVF): [RIVF'25](#)
- International Symposium on Information and Communication Technology (SoICT)': [SoICT'22](#)
- International Conference on Networks (ICN): [ICN'20, ICN'21, ICN'22](#)

**Regular reviewer for journals:** IEEE Journal on Selected Areas in Communications (JSAC); IEEE/ACM Transactions on Networking (TON); IEEE Transactions on Mobile Computing (TMC); IEEE Transactions on Network and Service Management (TNSM); IEEE Transactions on Parallel and Distributed Systems (TPDS); IEEE Open Journal of the Communications Society (OJCOMS); IEEE System Journal (ISJ); IEEE Communications Letters (COMML); Elsevier Computer Networks (COMNET); Elsevier Computer Communications (COMCOM); Springer Nature Journal of Network and Systems Management (JNSM).

**Regular reviewer for conferences:** IEEE Global Communications Conference (GLOBECOM); IEEE International Conference on Communications (ICC); IEEE Vehicular Technology Conference (VTC); IEEE International Conference on Advanced Technologies for Communications (ATC); IEEE International Conference on Smart Computing (SMARTCOMP).

## OTHER ACTIVITIES

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Since 2023 **Head of local organizing team**, *Vietnam Summer School of Science (VSSS)*, Quy Nhon, Vietnam. Since 2013, VSSS has grown into an annual event with nearly 150 participants each year, offering scientific training to almost 2,000 students nationwide.

Since 2020 **Founder & admin**, [telecom-vn](#)—a group gathering more than 400 Vietnamese researchers in networking and telecoms (as of Aug. 2025)

## PUBLICATIONS

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**Research profiles:** [Google Scholar](#), [ORCID](#), [HAL Archives Ouvertes](#), [ResearchGate](#)

## Patents

- (b<sub>1</sub>) Sylvaine Kerboeuf, **Quang-Trung Luu**, Michel Kieffer, and Alexandre Mouradian, “Slice Resource Provisioning Method Addressing Multiple Slice Demands with SLA Guarantee,” US Patent 11,431,562 B2, filed 07 December 2018, issued 16 December 2021, granted 30 August 2022.

## In preparation

- (p<sub>1</sub>) **Quang-Trung Luu**, Cong-Viet Hoang, Ha-Son Nguyen, and Dang-Vu Nguyen, “Timirax: Joint Acceptance Rate and Completion Time Optimization for Coflows in Datacenters,” to be submitted to *IEEE Networking Letters*, 2026.
- (p<sub>2</sub>) Ngoc Hung Nguyen, Nguyen Van Thieu, Senura H. Wanasekara, Van-Dinh Nguyen, **Quang-Trung Luu**, Nguyen Cong Luong, and Anh Tuan Nguyen, “Joint Autonomous Control and Tasks Handling in Intelligent Transportation Systems,” to be submitted to *IEEE Transactions on Intelligent Transportation Systems*, 2026.

## Submitted, in review

- (s<sub>1</sub>) **Quang-Trung Luu**, Minh-Thanh Nguyen, Michel Kieffer, Tuan-Anh Do, and Van-Dinh Nguyen, “Network Slice Embedding with Flexible VNF Order: A Branch-and-Bound Approach,” submitted to *IEEE Transactions on Network and Service Management*, 2026 (major revision, preprint: [arXiv:2412.05993](https://arxiv.org/abs/2412.05993)).
- (s<sub>2</sub>) Tuan-Vu Truong, **Quang-Trung Luu**, Van-Dinh Nguyen, Dinh Thai Hoang, and Diep N. Nguyen, “A Multi-Agent and Attention-Based DRL Approach for Joint Radio and Computing Resource Orchestration in Open RAN Slicing,” submitted to *IEEE Transactions on Communications*, 2026.
- (s<sub>3</sub>) Le-Hung Hoang, **Quang-Trung Luu**, Dinh Thai Hoang, Diep N. Nguyen, and Van-Dinh Nguyen, “Securing SIM-Assisted Wireless Networks via Quantum Reinforcement Learning,” submitted to *IEEE Transactions on Communications*, 2026.
- (s<sub>4</sub>) Ngoc Hung Nguyen, Nguyen Van Thieu, **Quang-Trung Luu**, Anh Tuan Nguyen, Senura Wanasekara, Nguyen Cong Luong, Fatemeh Kavehmavadani, Van-Dinh Nguyen, “Oranits: Mission Assignment and Task Offloading in Open RAN-based ITS using Metaheuristic and Deep Reinforcement Learning,” submitted to *IEEE Transactions on Vehicular Technology*, 2026.
- (s<sub>5</sub>) Nguyen Van Duc, Bui Duc Manh, **Quang-Trung Luu**, Dinh Thai Hoang, Van-Linh Nguyen, and Diep N. Nguyen, “HEDI: Efficient Homomorphic-Encrypted Deep Inference for Privacy-Preserving UAV–Edge Face Analytics,” submitted to *Adhoc Networks*, 2026.

## Journal papers (peer-reviewed)

- (j<sub>1</sub>) Minh-Tuong Nguyen, Van-Dinh Nguyen, **Quang-Trung Luu**, and Le-Nam Tran, “Deadline-Aware Task Offloading with Concurrency in Serverless Edge Computing,” in *IEEE Internet of Things Journal*, 2026 (accepted).
- (j<sub>2</sub>) Tuan-Vu Truong, **Quang-Trung Luu**, and Van-Dinh Nguyen, “Accelerating Resource Allocation in Open RAN Slicing via Deep Reinforcement Learning,” in *IEEE Transactions on Network and Service Management*, 2026 (accepted).
- (j<sub>3</sub>) **Quang-Trung Luu**, Do-Minh Tran, Minh-Thanh Nguyen, Michel Kieffer, Dinh Thai Hoang, Tai-Hung Nguyen, Huu-Thanh Nguyen, Van-Dinh Nguyen, “Network Slice Embedding with Flexible Configurations in 5G Networks and Beyond,” in *IEEE Networking Letters*, 2026.
- (j<sub>4</sub>) Phong C. H. Nguyen, Joseph B. Choi, and **Quang-Trung Luu**, “Deep learning with fourier features for regressive flow field reconstruction from sparse sensor measurements,” in *Scientific Reports*, 2026. doi: 10.1038/s41598-026-36301-y (Scopus Q1, IF 3.9, preprint: [arXiv:2411.13815](https://arxiv.org/abs/2411.13815)).

- (j<sub>5</sub>) Xuan Hoang Nguyen, Van-Dinh Nguyen, **Quang-Trung Luu**, Toan Dinh Gian, and Oh-Soon Shin, "Robust WiFi Sensing-based Human Pose Estimation Using Denoising Autoencoder and CNN with Dynamic Subcarrier Attention," in *IEEE Internet of Things Journal*, 2025, doi: 10.1109/JIOT.2025.3535156. (E-ISSN: 2327-4662, Scopus Q1, IF 8.2).
- (j<sub>6</sub>) Rachid El-Azouzi, Francesco De Pellegrini, Afaf Arfaoui, Cédric Richier, Jeremie Leguay, **Quang-Trung Luu**, Youcef Magnouche, and Sébastien Martin, "Semi-distributed Coflow Scheduling in Datacenters," in *IEEE Transactions on Network and Service Management*, 2024, doi: 10.1109/TNSM.2024.3395992. (E-ISSN: 1932-4537, Scopus Q1, IF 5.3).
- (j<sub>7</sub>) Olivier Brun, Rachid El-Azouzi, **Quang-Trung Luu**, Francesco De Pellegrini, Balakrishna J. Prabhu, and Cédric Richier, "Weighted Scheduling of Time-Sensitive Coflows," in *IEEE Transactions on Cloud Computing*, 2024, doi: 10.1109/TCC.2024.3384514 (E-ISSN: 2168-7161, arXiv: 2303.17175, Scopus Q1, IF 6.5).
- (j<sub>8</sub>) **Quang-Trung Luu**, Sylvaine Kerboeuf, and Michel Kieffer, "Admission Control and Resource Provisioning for Prioritized Slice Requests with Uncertainties," in *IEEE Transactions on Network and Service Management*, 2022, doi: 10.1109/TNSM.2022.3160352. (E-ISSN: 1932-4537, hal: hal-03614028, arXiv: 2203.09367, Scopus Q1, IF 5.3)
- (j<sub>9</sub>) **Quang-Trung Luu**, Sylvaine Kerboeuf, and Michel Kieffer, "Uncertainty-Aware Resource Provisioning for Network Slicing," in *IEEE Transactions on Network and Service Management*, vol. 18, no. 1, pp. 79-93, Mar. 2021, doi: 10.1109/TNSM.2021.3058139 (E-ISSN: 1932-4537, hal: hal-03418308, arXiv: 2006.01104, Scopus Q1, IF 5.3)
- (j<sub>10</sub>) **Quang-Trung Luu**, Sylvaine Kerboeuf, Alexandre Mouradian, "Coverage-Aware Resource Provisioning Method for Network Slicing" in *IEEE/ACM Transactions on Networking*, vol. 28, no. 6, pp. 2393-2406, Dec. 2020, doi: 10.1109/TNET.2020.3019098 (E-ISSN: 1558-2566, hal: hal-03097001, arXiv: 1907.09211v3, Scopus Q1, IF 3.7)

### **Conference papers (peer-reviewed)**

- (c<sub>1</sub>) Kim-Hoan Do, Tai-Hung Nguyen, **Quang-Trung Luu**, Minh-Thanh Nguyen, Do-Minh Tran, and Van-Dinh Nguyen, "Graph Neural PPO for Joint User Association and Resource Allocation in Open RAN," in *Proc. 2026 40th International Conference on Information Networking (ICOIN)*, 2026, doi: TBD.
- (c<sub>2</sub>) Ngoc Hung Nguyen, Van Thieu Nguyen, **Quang-Trung Luu**, Vo Phi Son, and Van-Dinh Nguyen, "A Meta-heuristic Approach for Mission Assignment and Task Offloading in Open RAN-Enabled Intelligent Transport Systems," in *Proc. IEEE Global Communications Conference (GLOBECOM)*, Taipei, Taiwan, 2025, pp. 1-6, doi: TBD.
- (c<sub>3</sub>) Le-Hung Hoang, Minh-Hoang Pham, **Quang-Trung Luu**, and Van-Dinh Nguyen, "Secure Multiuser Communications with Stacked Intelligent Metasurfaces using Quantum Reinforcement Learning," in *Proc. International Conference on Advanced Technologies for Communications (ATC)*, Hanoi, Vietnam, 2025, pp. 1-6, doi: 10.1109/ATC67618.2025.11268562.
- (c<sub>4</sub>) Duc-Tien Nguyen, Trong-Tin Nguyen, Tai Hung Nguyen, Nguyen Huu Thanh, and **Quang-Trung Luu**, "Resource Allocation for Open Radio Access Networks Using Reinforcement Learning," in *Proc. International Conference on Advanced Technologies for Communications (ATC)*, Hanoi, Vietnam, 2025, pp. 1-6, doi: 10.1109/ATC67618.2025.11268771.
- (c<sub>5</sub>) **Quang-Trung Luu**, Minh-Thanh Nguyen, Tai-Hung Nguyen, Michel Kieffer, Van-Dinh Nguyen, Quang-Lap Luu, and Trung-Toan Nguyen, "Admission Control and Embedding of Network Slices with Flexible VNF Order," in *Proc. 20th International Conference on Network and Service Management (CNSM)*, Prague, Czech Republic, 2024, pp. 1-5, doi: 10.23919/CNSM62983.2024.
- (c<sub>6</sub>) Duc-Manh Nguyen, Duc-Hai Do, Thanh-Hai Tran, and **Quang-Trung Luu**, "Real-Time Pig Counting Embedded System via Video Object Detection and Tracking," in *Proc. International Conference on Advanced Technologies for Communications (ATC)*, Ho Chi Minh City, Vietnam, 2024, pp. 655-660, doi: 10.1109/ATC63255.2024.10908322..

- (c<sub>7</sub>) Tuan-Vu Truong, **Quang-Trung Luu**, and Van-Dinh Nguyen, **Efficient Resource Allocation Framework for Network Slicing-enabled Open RAN**, "IEEE International Conference on Communications and Electronics (ICCE), Danang, Vietnam, 2024, pp. 747-752, doi: 10.1109/ICCE62051.2024.10634735 (E-ISSN: 2836-4392).
- (c<sub>8</sub>) Minh-Thanh Nguyen, **Quang-Trung Luu**, Tai-Hung Nguyen, Do-Minh Tran, Tuan-Anh Do, Kim-Hoan Do, and Van-Hieu Nguyen, "**Accelerating Network Slice Embedding with Reinforcement Learning**," IEEE International Conference on Communications and Electronics (ICCE), Danang, Vietnam, 2024, pp. 78-83, doi: 10.1109/ICCE62051.2024.10634634. (E-ISSN: 2836-4392)
- (c<sub>9</sub>) **Quang-Trung Luu**, Olivier Brun, Rachid El-Azouzi, Francesco De Pellegrini, Balakrishna J. Prabhu, and Cédric Richier, "**DCoflow: Deadline-Aware Scheduling Algorithm for Coflows in Datacenter Networks**," in Proc. IFIP Networking Conference, Catania, June 2022, pp. 1-9.
- (c<sub>10</sub>) **Quang-Trung Luu**, Sylvaine Kerboeuf, and Michel Kieffer, "**Foresighted Resource Provisioning for Network Slicing**," in Proc. IEEE International Conference on High Performance Switching and Routing (HPSR), Paris, June 2021, pp. 1-8.
- (c<sub>11</sub>) **Quang-Trung Luu**, Sylvaine Kerboeuf, Alexandre Mouradian, and Michel Kieffer, "**Radio Resource Provisioning for Network Slicing with Coverage Constraints**," in Proc. IEEE International Conference on Communications (ICC), Dublin, Ireland, June 2020, pp. 1-6. (**BELL LABS PUBLICATION AWARD**).
- (c<sub>12</sub>) **Quang-Trung Luu**, Michel Kieffer, Alexandre Mouradian, and Sylvaine Kerboeuf, "**Aggregated Resource Provisioning for Network Slices**," in Proc. IEEE Global Communications Conference (GLOBECOM), Abu Dhabi, Dec. 2018, pp. 1-6 (**IEEE COMSOC STUDENT TRAVEL AWARD**).
- (c<sub>13</sub>) **Quang-Trung Luu**, Stavros Koulouridis, Antoine Diet, Yann Le Bihan, and Lionel Pichon, "**Investigation of Inductive and Radiating Energy Harvesting for an Implanted Biotelemetry Antenna**," in Proc. European Conference on Antennas and Propagation (EuCAP), Paris, Mar. 2017.
- (c<sub>14</sub>) Antoine Diet, Stavros Koulouridis, Yann Le Bihan, **Quang-Trung Luu**, Olivier Meyer, Lionel Pichon, and Marc Biancheri-Astier, "**Sub-GHz Inductive Power Transmission from Helical Coils for Implanted Medical Devices**," in Proc. IEEE International Workshop on Antenna Technology (iWAT), Athens, Greece, Mar. 2017.
- (c<sub>15</sub>) **Quang-Trung Luu**, Duc-Hung Tran, Bao-Huy Nguyen, Yem Vu-Van, and Cao-Minh Ta, "**Design of the Resonators for Coupled Magnetic Resonance based Wireless Power Transmission Systems**," in Proc. 2nd Vietnam Conference on Control and Automation (VCCA), Da Nang, pp. 724-729, Nov. 2013.

## Workshops/Posters

- (w<sub>1</sub>) Kim-Hoan Do, **Quang-Trung Luu**, Tai-Hung Nguyen, Minh-Thanh Nguyen, and Tuan-Anh Do, "**Accelerating Network Slice Embedding with Reinforcement and Deep Reinforcement Learning**," 18th Asian Internet Engineering Conference (ACM AINTEC), Hanoi, Dec. 2023 (**BEST POSTER AWARD**).
- (w<sub>2</sub>) **Quang-Trung Luu**, Michel Kieffer, Alexandre Mouradian, and Sylvaine Kerboeuf, "**Resource Provisioning for Network Slices with Coverage Constraints**," ANR MAESTRO-5G Workshop on Orchestration of 5G Networks and Beyond, CentraleSupélec, Gif-sur-Yvette, Dec. 2020.
- (w<sub>3</sub>) Antoine Diet, Stavros Koulouridis, Yann Le Bihan, **Quang-Trung Luu**, Olivier Meyer, Lionel Pichon, M. Biancheri-Astier, "**RF Link for Implanted Medical Devices (IMDs) and Sub-GHz Inductive Power Transmission**," in Journées d'Etude sur la Télésanté (JetSan), 6ème édition, Bourges, France, May 2017.