Jose Rizal University

College of Computer Studies Engineering

Computer Engineering Department

Field Trip Report

CPE C409 – SEMINARS AND FIELDTRIPS

Submitted by:

Exiquiel John A. Pines

Submitted to:

Engr. Monette Loy-A

Date Submitted:

December 10, 2023

Columbia Wire & Cable Corporation

Baesa, Quezon City

This report details our field trip to Columbia Wires and Cables, a leading manufacturer of wires and cables in the Philippines. Established in 1964, Columbia Wires and Cables has grown from a modest startup into a prominent force within the Philippine wire and cable industry. During our visit, we witnessed firsthand the meticulous manufacturing process, from the initial stretching of copper rods to the final testing of completed cables.

Company Overview

Columbia has established itself as a trusted name in the wire and cable industry since 1964. They prioritize quality, cater to diverse needs, and implement sustainable practices. Their product range includes:

- **Power Cables**: THHN/THWN for heavy-duty power distribution.
- **Communication Cables**: THW and TW for reliable data transmission.
- **Loomex Cables**: Flat and flexible for tight spaces and renovations.
- **Fire-Rated Cables**: FRC for extra fire protection.

Manufacturing Process

At the heart of Columbia's success lies their meticulous manufacturing process, transforming raw materials into high-quality wires and cables. This journey takes place in four key steps:

1. **Stretching**: Thick copper or aluminum rods are stretched thin through metal funnels. This makes them stiff, requiring annealing in a warm oven for flexibility.
2. **Twisting** and Shaping: Thin wires are twisted together like braiding, forming the cable core. Padding or armor may be added for specific applications.
3. **Insulation**: Melted plastic is extruded around the core for insulation and protection. Color often signifies the cable's power handling capacity.
4. **Testing**: The finished product undergoes rigorous electrical and strength testing before being coiled and shipped.

Materials

Columbia sources their raw materials from responsible suppliers who prioritize environmental and social ethics. They use:

- **Copper**: Sourced from environmentally and socially responsible companies.

- **Plastic**: High-quality plastic from reputable suppliers who follow regulations.
- **Other materials**: Specialized materials for specific properties are sourced from environmentally conscious suppliers.

Waste Management

Columbia demonstrates their commitment to sustainability through responsible waste management practices:

- **PVC Scrap Recycling**: PVC scraps are recycled within their production process, reducing virgin material usage.
- **Metal Shavings Recycling**: Collected metal shavings are sold to accredited recycling facilities for responsible metal recovery.
- **Chemical Waste Management**: Leftover chemicals are treated and disposed of through licensed contractors adhering to strict environmental regulations.

Our visit to Columbia Wires and Cables was insightful and informative. We witnessed their dedication to quality, innovation, and environmental responsibility. Their commitment to ethical practices and sustainability sets them apart as a leader in the wire and cable industry. This field trip provided valuable knowledge that will enhance our understanding of the industry and inform our future careers.

PAGASA Headquarters

Diliman, Quezon City

Our visit to the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) headquarters in Quezon City unveiled the intricate world of weather forecasting, geophysical monitoring, and astronomical observation. Witnessing firsthand the dedicated efforts of PAGASA in protecting lives and livelihoods through their critical services was a truly enlightening experience.

Company Overview

Established in 1947 and operating under the Department of Science and Technology (DOST), PAGASA stands as the national agency responsible for safeguarding the public through its vital services:

- **Weather Forecasting**: Providing timely and accurate weather forecasts, covering national, regional, and specific locations, empowers individuals, businesses, and government agencies to make informed decisions.
- **Climate Data and Analysis**: Monitoring and analyzing long-term climate trends enables PAGASA to offer crucial insights into climate change impacts and inform adaptation strategies.
- **Geophysical Hazard Warnings**: Protecting lives from earthquakes, volcanic eruptions, tsunamis, and other geological hazards through timely alerts and warnings is a cornerstone of PAGASA's mission.
- **Astronomical Observations and Data**: Monitoring celestial bodies and sharing information on astronomical events like eclipses and meteor showers contributes to scientific research and public awareness.

Collaboration and Partnerships

PAGASA collaborates with various entities to extend its reach and impact:

- **Government**: PAGASA works closely with national and local government agencies to ensure effective disaster preparedness and response.
- **International Organizations**: Collaborations with international bodies facilitate knowledge sharing and access to advanced technologies.
- **Research Institutions**: Joint research initiatives contribute to scientific advancement and improved predictive capabilities.
- **Private Companies**: Partnerships with private companies help modernize infrastructure and enhance public outreach programs.

Operations:

During our visit, we were able to have a glimpse of PAGASA's operations and unique functionalities

- **Data Collection**: We witnessed the impressive network of weather stations, seismic sensors, and astronomical telescopes continuously gathering vital data.
- **Data Analysis**: Dedicated teams of scientists and technicians analyzed the collected data, utilizing sophisticated software and algorithms.
- **Information Dissemination**: We observed the dissemination process, including media briefings, website updates, and mobile app notifications.

Our field trip to PAGASA reinforced the crucial role they play in ensuring public safety and informed decision-making. Witnessing their dedication and expertise firsthand instilled a profound appreciation for their invaluable services. We departed with a deeper understanding of the interconnectedness of weather, geophysics, and astronomy, and the importance of collaborative efforts to safeguard our planet and its inhabitants.
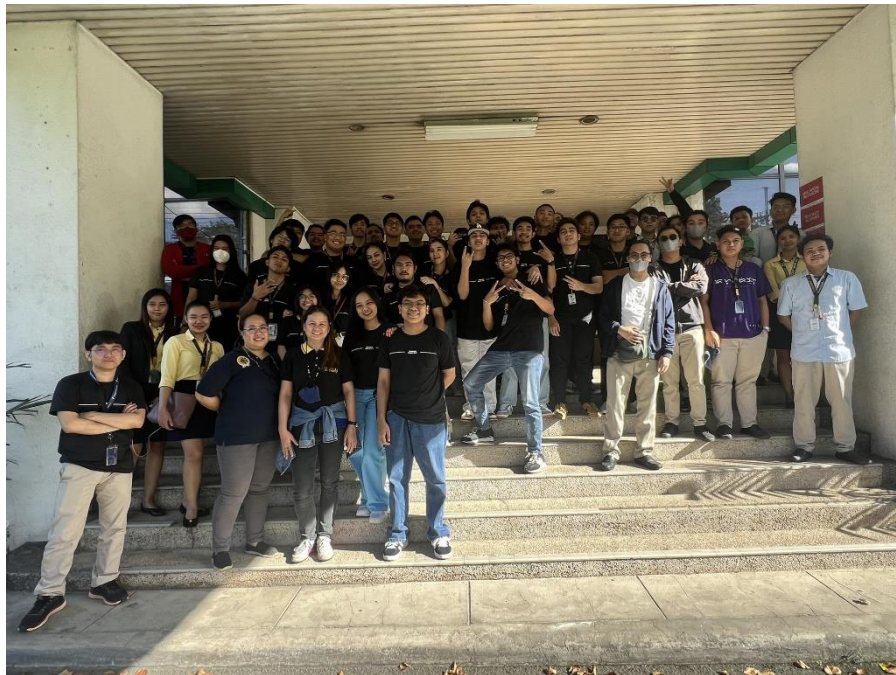
Packetworx

Ortigas Center, Pasig

Our field trip to Packetworx, a leading provider of data center infrastructure and networking solutions in the Philippines, opened our eyes to the intricate world behind the seamless flow of data. Witnessing firsthand the company's dedication to building and maintaining the backbone of the digital age was an enriching experience.

Company Overview

Founded in 1994, Packetworx has transformed from a distributor of networking equipment into a comprehensive solutions provider. Their expertise lies in three key areas:

- **Data Center Infrastructure**: Designing, building, and managing secure and efficient data centers, the vital foundation of modern IT operations.
- **Networking Equipment**: Supplying and installing cutting-edge network components, such as routers, switches, and firewalls, from industry leaders like Cisco, Juniper, and Huawei. Notably, their Cisco Gold Partner certification underscores their exceptional expertise in Cisco solutions.
- **Network Solutions**: Offering customized network design, implementation, and support services, tailored to each client's unique needs.

Manufacturing and Assembly Process

While not directly involved in manufacturing, Packetworx plays a crucial role in assembling and configuring network equipment based on specific client requirements. This involves:

1. **Pre-built Equipment Sourcing**: Procuring routers, switches, and other components from reputable brands like Cisco and Huawei. Established partnerships ensure access to the latest technologies and competitive pricing.
2. **Configuration and Testing**: Each device undergoes rigorous configuration and testing based on client requirements. This encompasses software setup, security policy application, and performance optimization.
3. **Integration and Assembly**: Depending on the project, equipment might be assembled into racks or cabinets for streamlined installation at the client's data center. Customized cabling and labeling ensure efficient management.
4. **Quality Control**: Every stage undergoes meticulous checks using specialized tools and procedures. This guarantees flawless functionality before delivery and installation.

Waste Management and Sustainability

Packetworx prioritizes responsible waste management practices and adheres to relevant environmental regulations. Their key initiatives include:

- **Packaging Waste Minimization**: Encouraging suppliers to use minimal packaging and participating in take-back programs. They also explore biodegradable packaging options for their own operations.
- **E-waste Disposal**: Partnering with certified e-waste facilities like TES-AMM to ensure responsible disposal of used batteries, cables, and other electronic components.
- **Paper Usage Reduction**: Embracing digital documentation and online communication whenever possible. Utilizing recycled paper for any remaining printing needs.

Our field trip to Packetworx provided valuable insights into the vital role they play in the digital landscape. Their dedication to providing innovative and reliable solutions ensures the smooth operation of countless businesses and organizations. We left with a deeper understanding of the intricate world of data centers and networking, and a newfound appreciation for Packetworx's contribution to the digital age.

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Field Trip Evaluation

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FIELD TRIP EVALUATION FORM

exiqueiljohn.pines@my.jru.edu Switch account

☁ Draft saved

* Indicates required question

Email *

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I. Objectives

The objectives of the field trip were attained. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	◉	Strongly Agree

II. Learning Outcomes

The field trip enhanced my understanding of the subject/topic. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	◉	Strongly Agree

The field trip aligned well with our curriculum or learning goals. *

	1	2	3	4	5

The field trip aligned well with our curriculum or learning goals. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	⦿	Strongly Agree

III. Logistics and Organization

The organization of the field trip (e.g., transportation, schedules) was well-handled. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	⦿	Strongly Agree

Were there any logistical issues that affected your experience? *

○ Yes

⦿ No

IV. Activities and Engagement

The activities during the field trip were engaging and informative. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	⦿	Strongly Agree

The activities were suitable for my age/interests. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	⦿	Strongly Agree

V. Safety and Well-being

I felt safe during the field trip. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	⦿	Strongly Agree

Safety measures were adequately implemented and communicated. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	⦿	Strongly Agree

VI. Overall Experience

Rate your overall experience on this field trip. *

	1	2	3	4	
Poor	○	○	○	⦿	Excellent

What did you enjoy the most about the field trip? *

What did you enjoy the most about the field trip? *

Packetworx

VII. Long-Term Impact

Do you believe this field trip will have a long-term impact on your learning?   *

◉ Yes

◯ No

Did it stimulate further interest or curiosity in the subject/topic visited? *

◉ Yes

◯ No

VIII. Recommendations

Suggestions to enhance future field trips: *

None

A copy of your responses will be emailed to the address you provided.

Submit   Clear form

docs.google.com/forms/u/1/d/e/1FAIpQLSdwhrvRkjMnHBUJng2_rNHDBwLhYSRXPjXKt8UopTa47MDO...

FIELD TRIP EVALUATION FORM

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