

CPP Navigator

User Guide for the Platform
Beta Release



Connectivity Planning Platform
Charting pathways to universal digital access



ITUCPP



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CPP Navigator



The Connectivity Planning Platform (CPP) Navigator is the user interface that guides planners, regulators, and technical teams through the creation of connectivity projects, scenario preparation, model running, and visualization of results.

This guide follows the exact workflow shown in the CPP tutorial video, enabling users to replicate every action on the platform with confidence.



CPP End-to-End Planning Workflow



Datasets:

CPP combines user-provided and system-provided datasets to create the foundation for accurate, real-world connectivity analysis.

Models:

Models apply technical and cost parameters to simulate different technology options and generate feasible connectivity solutions.

Scenarios:

Scenarios define the planning objectives and constraints—such as demand, budget, and timelines—to guide the system toward optimal results.



1. Access the Login Page

1.1. Log In to Start Working

Once approved, log in using:

- Your email
- Your password

After login, you gain access to:

- Projects dashboard
- Dataset library
- Scenario builder
- Interactive map

All tools and models are available to your user role.

1.2. User Roles

The CPP supports role-based access:

- *Viewer*: Can view existing projects and results
- *Analyst*: Can create/edit projects, scenarios, datasets
- *Administrator*: Can manage users, data, and country workspace

If your role needs to be changed, contact your country administrator or the ITU support team at cppsupport@itu.int



2. Creating a New Dataset

Ensuring that the data you provide is accurate, complete, and relevant is essential — the platform’s analysis, modelling, and final recommendations will be based on the datasets you create and upload.

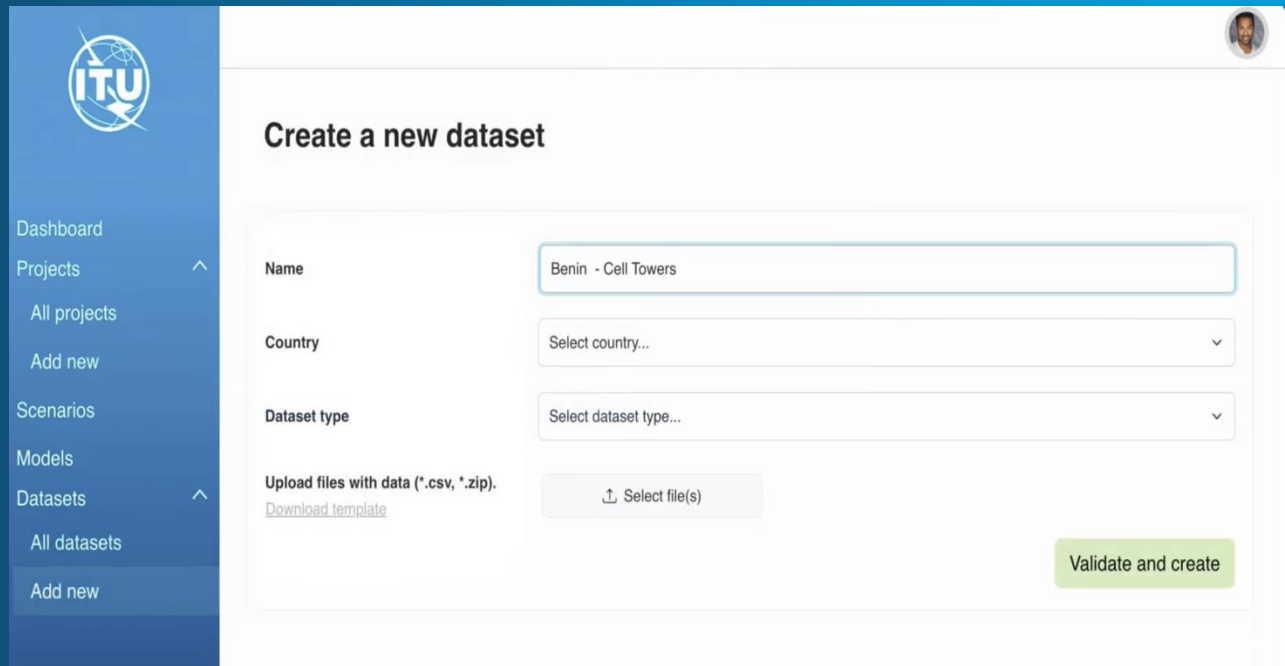
2.1 Create a new dataset

Enter:

- Name
- Country
- Dataset Type

Select the files to be uploaded.

Click on Validate and Create



The screenshot shows the 'Create a new dataset' interface. On the left is a blue sidebar with the ITU logo and a navigation menu: Dashboard, Projects (with a sub-menu for 'All projects' and 'Add new'), Scenarios, Models, Datasets (with a sub-menu for 'All datasets' and 'Add new'), and a highlighted 'Add new' button. The main content area is white and titled 'Create a new dataset'. It contains a form with the following fields: 'Name' (text input with 'Benin - Cell Towers'), 'Country' (dropdown menu with 'Select country...'), and 'Dataset type' (dropdown menu with 'Select dataset type...'). Below these is an 'Upload files with data (*.csv, *.zip)' section with a 'Download template' link and a 'Select file(s)' button. A green 'Validate and create' button is located at the bottom right of the form.



2. Creating a New Dataset

2.2 Datasets

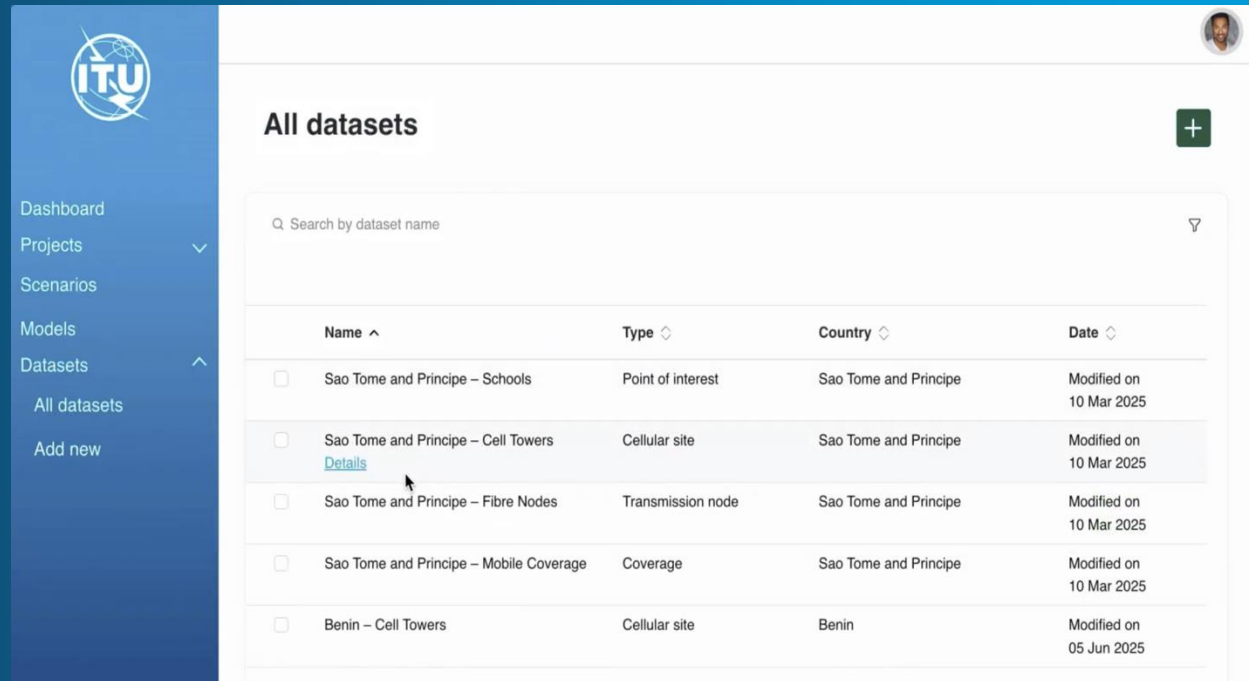
The platform allows uploading:

- The Telecommunication Infrastructure
- Points of Interest Data

And uses:

- Elevation
- Road Infrastructure
- Population Data

Essential for effective connectivity planning.



The screenshot shows the ITU CPP web interface. On the left is a blue sidebar with the ITU logo and navigation links: Dashboard, Projects, Scenarios, Models, Datasets (selected), All datasets, and Add new. The main content area is titled 'All datasets' and features a search bar and a table of datasets. The table has columns for Name, Type, Country, and Date. A mouse cursor is hovering over the 'Details' link in the second row.

Name ^	Type ◇	Country ◇	Date ◇
<input type="checkbox"/> Sao Tome and Principe – Schools	Point of interest	Sao Tome and Principe	Modified on 10 Mar 2025
<input type="checkbox"/> Sao Tome and Principe – Cell Towers Details	Cellular site	Sao Tome and Principe	Modified on 10 Mar 2025
<input type="checkbox"/> Sao Tome and Principe – Fibre Nodes	Transmission node	Sao Tome and Principe	Modified on 10 Mar 2025
<input type="checkbox"/> Sao Tome and Principe – Mobile Coverage	Coverage	Sao Tome and Principe	Modified on 10 Mar 2025
<input type="checkbox"/> Benin – Cell Towers	Cellular site	Benin	Modified on 05 Jun 2025

All uploaded data sets are stored in the Datasets list for easy access.

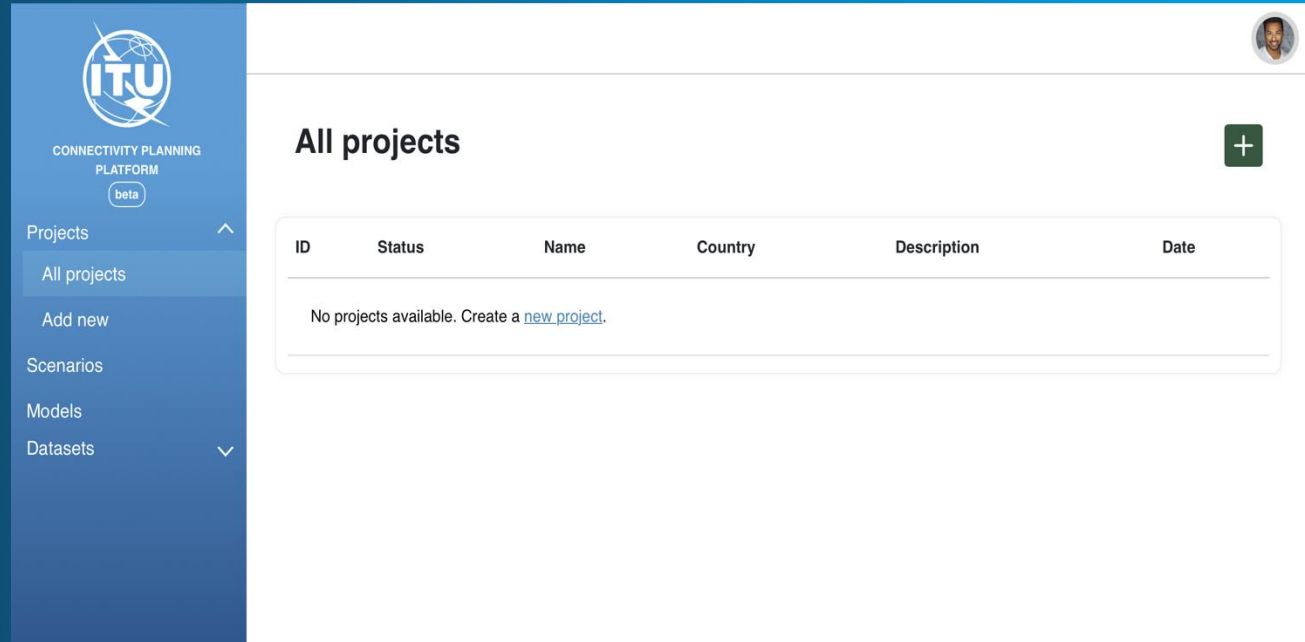


3. Creating a New Project

Every analysis in the CPP begins with a project.

3.1 Start a New Project

- Go to Projects
- Click Create New Project



ITU
CONNECTIVITY PLANNING
PLATFORM
beta

Projects ^

- All projects
- Add new
- Scenarios
- Models
- Datasets v

All projects

ID	Status	Name	Country	Description	Date
No projects available. Create a new project .					

You may Save or Cancel at any step.
Once saved, the project appears as a Draft in the Project List.



3. Creating a New Project

Step 1: Project Information

3.2 Enter:

- Project Name
- Country of Focus
- Project Description

The screenshot displays the ITU Connectivity Planning Platform interface. On the left is a blue sidebar with the ITU logo and navigation options: Projects (All projects, Add new), Scenarios, Models, and Datasets. The main content area is titled 'Create a new project' and shows a progress bar with four steps: Step 1 (Project information), Step 2 (Scenario and model), Step 3 (Upload input datasets), and Step 4 (Run calculations). The 'Step 1: Project information' form includes three input fields: 'Project name' (text input), 'Country' (dropdown menu with 'Select country' text), and 'Project description' (text area). A green 'Save step 1' button is located at the bottom right of the form.

You may Save or Cancel at any step.
Once saved, the project appears as a Draft in the Project List.



3. Creating a New Project

Step 2: Scenario and Model Selection

Scenarios provide a structured setup for planning, while models simulate specific telecommunication technologies.

3.3 Select:

- Maximize Net Present Value

Or

- Minimize the Total Cost of Ownership

The screenshot displays the ITU Connectivity Planning Platform interface. The left sidebar contains the ITU logo and navigation options: Projects (with a 'beta' badge), All projects, Add new, Scenarios, Models, and Datasets. The main content area shows a progress bar with four steps: Step 1 (Project information), Step 2 (Scenario and model), Step 3 (Upload input datasets), and Step 4 (Run calculations). The current step is Step 2, titled 'Project: Test'. Below the title, there are two expandable sections: 'Step 1: Project information' and 'Step 2: Scenario and model'. The 'Step 2: Scenario and model' section is expanded, showing a 'Scenario' dropdown menu with two options: 'Maximize net present value' and 'Minimize total cost of ownership'.

You may Save or Cancel at any step.
Once saved, the project appears as a Draft in the Project List.



3. Creating a New Project

3.4 Scenario Parameters:

Enter Parameter Value for each Parameter

3.5 Select Models:

- Point-to-Point Radio
- Cellular
- Satellite
- Fibre Optic

The screenshot shows the ITU CPP web interface. On the left is a navigation menu with options: Dashboard, Projects (with a sub-menu for 'All projects' and 'Add new'), Scenarios, Models, and Datasets. The main content area is titled 'Step 2: Scenario - Minimize total cost of ownership'. It includes a dropdown for 'Scenario' (set to 'Minimize total cost of ownership'), a 'Scenario description' field (containing 'Assign the technologies that minimize the total cost of ownership'), and a table for 'Scenario parameters'.

Parameter name	Parameter value
Maximum total expenditure, USD	1000000
Project planning period, years	10
Default user demand, Mbps	20

At the bottom, there is a 'Models' section with the text 'No models selected'.

You may Save or Cancel at any step. Once saved, the project appears as a Draft in the Project List.



3. Creating a New Project

Step 3: Upload Input Datasets

3.6 Select Datasets

- Cellular Towers
- Transmission Nodes
- Points of Interest
- Mobile Coverage

Ensuring they match the country and model requirements.

The screenshot shows the ITU Connectivity Planning Platform interface. The left sidebar contains the ITU logo, the text 'CONNECTIVITY PLANNING PLATFORM (beta)', and a navigation menu with 'Projects' (expanded to show 'All projects' and 'Add new'), 'Scenarios', 'Models', and 'Datasets'. The main content area shows a progress bar with three steps: 'Step 1: Project information', 'Step 2: Scenario - Maximize net present value', and 'Step 3: Upload input datasets' (which is currently active). Below the progress bar is a table with three columns: 'Models', 'Model parameters', and 'Datasets'. The 'Models' column lists 'Point-to-point radio' and 'Satellite'. The 'Model parameters' column for both models shows 'No parameters available'. The 'Datasets' column shows two sections: 'Type: Point of Interest' with a 'Select a dataset' dropdown, and 'Type: Cell towers' with a 'Select a dataset' dropdown. A 'Save step 3' button is located at the bottom right of the form.

Models	Model parameters	Datasets
Point-to-point radio	• No parameters available	Type: Point of Interest Select a dataset
Satellite	• No parameters available	Type: Cell towers Select a dataset

You may Save or Cancel at any step. Once saved, the project appears as a Draft in the Project List.



3. Creating a New Project

Updated datasets are the key to accurate modelling and reliable connectivity planning.

3.7

Enter Parameters for each model.

Models	Parameters	Datasets
Point-to-point model	Access link bandwidth, MHz <input type="text" value="20"/>	Type: Point of interest Sao Tome and Principe – Schools
	Access link setup cost, USD per link <input type="text" value="800"/>	Type: Transmission node Sao Tome and Principe – Fiber Noc
	Annual hardware maintenance cost, fraction <input type="text" value="0.04"/>	Type: Cellular site Sao Tome and Principe – Cell Tower
	Annual ISP fees per 1 Mbps, USD <input type="text" value="20"/>	
	Annual license fee per 1 MHz, USD <input type="text" value="100"/>	
	Annual traffic fees per 1 Mbps, USD <input type="text" value="12"/>	
Fiber model	Maximum connection distance, meters <input type="text" value="3000"/>	
	Annual hardware maintenance cost, fraction <input type="text" value="0.1"/>	
	Annual ISP fees per 1 Mbps, USD <input type="text" value="31.8"/>	

You may Save or Cancel at any step. Once saved, the project appears as a Draft in the Project List.



3. Creating a New Project

Step 4: Run Calculations

3.8 Start Calculation

Once calculations are complete, view your projects in the project list interface.

The screenshot displays the ITU CPP web application interface. On the left is a blue sidebar with the ITU logo and navigation menu items: Dashboard, Projects (with an expand/collapse arrow), All projects, Add new, Scenarios, Models, and Datasets (with a collapse arrow). The main content area is white and shows a progress bar with four steps: Step 1: Project information, Step 2: Scenario - Minimize total cost of ownership, Step 3: Upload input datasets, and Step 4: Run calculations (which is highlighted in blue and has an expand/collapse arrow). Below the progress bar, the 'Step 4: Run Calculations' section is expanded, showing a 'Project Overview' with the following text: 'Project for Sao Tome and Principe is located in Sao Tome and Principe and is based on the scenario of 'Minimizing total cost of ownership' with the parameter(s) Budget (\$): 1,000,000. You can export or share your project at any moment. The calculation process can take from several minutes to several hours. You can leave this page and monitor the status on the project view page.' At the bottom of this section is a blue button labeled 'Start Calculation' with a mouse cursor pointing to it.

You may Save or Cancel at any step. Once saved, the project appears as a Draft in the Project List.



4. All Projects

Once calculations are complete, view your projects in the project list.

Status	Name	Country	Description	Date
<input type="checkbox"/> calculated	Project for Sao Tome and Principe View Edit Reports Share	Sao Tome and Principe	Calculation for Sao Tome and Principe	Modified on 18 Jul 2025
<input type="checkbox"/> in progress	School calculation	Mongolia	No description available	Modified on 16 Jul 2025
<input type="checkbox"/> configured	Data-Driven Planning for Educational Infrastructure	Benin	No description available	Modified on 17 Jul 2025
<input type="checkbox"/> in progress	Project for Sao Tome	Sao Tome and Principe	No description available	Modified on 16 Jul 2025
<input type="checkbox"/> in progress	The cost of installing solar panels	Belize	No description available	Modified on 15 Jul 2025



5. Exploring Results in the Map

The interactive map is where insights become actionable.

5.1 Accessing Results

Open your project after the calculation finishes.

5.2 What You'll See

The map displays:

- Towers capable of connecting POIs
- Fiber routes linking institutions to network nodes
- Model outputs for each technology
- Infrastructure gaps
- Alternative connection pathways

The screenshot shows the ITU CPP web interface. On the left is a blue sidebar with the ITU logo and navigation menu: Dashboard, Projects (expanded), All projects, Add new, Scenarios, Models, and Datasets. The main content area displays project details for "[0567] Project for Sao Tome and Principe" (Created: 18.07.2025). It includes a description of the "Minimize Total Cost of Ownership" scenario with parameters: maximum total expenditure = 1,000,000 USD, project planning period = 10 years, and default user demand = 20 Mbps. A green status bar indicates "[24b4v4h555] calculation is done, 1h 20min" with an "Edit and Re-run" button. Below is a section for "The previous calculations" and a map view. The map shows a network of fiber routes (orange lines) connecting various points (red dots) on a map of Sao Tome and Principe. A legend on the left of the map identifies the technology as "Fibre" (orange dot) and "Point-to-Point" (blue dot).



5. Exploring Results in the Map

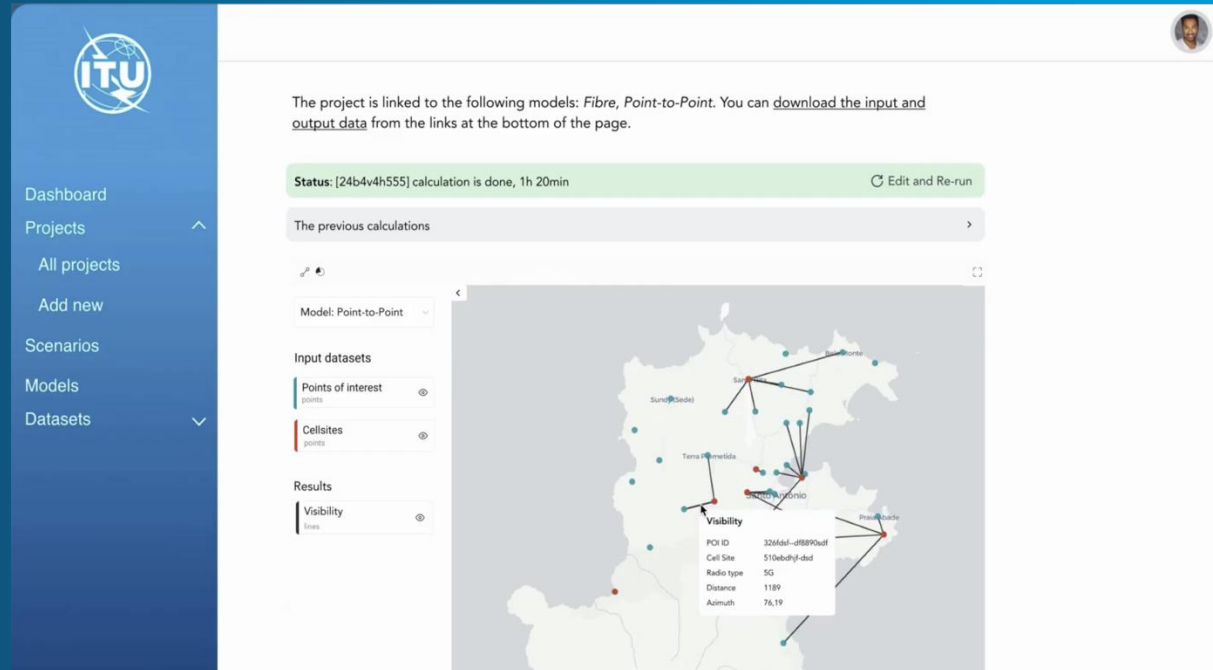
5.3 Inspecting Results

Hover over:

- Towers
- Transmission Nodes
- POIs

To see connection details such as:

- Feasibility
- Distances
- Linkages
- Technology recommendations



6. Use Insights for Planning and Policy

The CPP Navigator provides a deep and practical understanding of your country's connectivity landscape.

The results can be used to:

- Identify underserved communities
- Prioritize institutions (schools, hospitals, clinics)
- Compare technology options
- Plan fibre expansion or cellular upgrades
- Design resilient networks with satellite or microwave
- Inform national broadband strategies
- Guide investment and budgeting discussions

This ensures decisions are strategic, evidence-based, and impactful.



7. Practical Use Cases

7.1 Institutional Connectivity

Identify which towers or transmission nodes can serve specific schools or hospitals.

7.2 Rural Expansion Planning

Compare fibre, microwave, and cellular solutions for remote areas.

7.3 Redundancy and Resilience

Explore satellite or microwave backup options for critical institutions.

7.4 National Strategy Development

Use outputs to shape broadband plans and engage development partners.



8. Troubleshooting & Support

8.1 Common Issues

- Data schema errors
- Incorrect coordinate systems
- Missing required fields
- Datasets not matching the scenario country
- Incomplete model parameters

8.2 Solutions

- Use the dataset validation interface
- Confirm schema and field names
- Reassign datasets to the correct country
- Verify scenario settings

8.3 Get Support

For further assistance, contact your national administrator or

ITU support: cppsupport@itu.int

