How does it work?

The model allows the user to simulate manpower scenarios and shows their impact over time.

This can be achieved by:
- Configuring the model to reflect any Air Traffic Control environment (i.e. number of sectors, traffic growth, rostering policy, working conditions).
- Setting up scenarios over a defined timeframe, deciding which variables may change over time.
- Reviewing results by viewing various graphs, reports, tables which illustrate the result of decisions taken (e.g. on ATCOs required and ATCOs available).

BENEFITS

What are the benefits?

The model enables the user to:
- "Bring to life" and observe over a simulated time period, real issues faced in ATCO MP;
- Develop MP policy options and simulate them under evolving conditions;
- Gain an understanding of possible short and long term consequences of their decisions;
- Explore in a safe environment possibilities and options to learn about the dynamics of the ATCO MP process.

Additional Services and Support

When you choose to install LAMPS, we can further help you by:
- Facilitating practical workshops to assist in setting up a simulation environment reflecting your local conditions and requirements;
- Training on using the model and system dynamic principles.

In addition we:
- Provide guidance and documentation on all aspects related to MP and day-to-day management of operational staff;
- Facilitate regular workshops and the exchange of views and experience in ATCO MP with other Manpower Planners from different countries in ECAC.
Manpower Planning (MP) is necessary to meet strategic objectives such as “the provision of the right number of staff, with the right qualification, at the right time and in the right place to meet business requirements”.

Apparently, it is difficult to meet these objectives in practice, noting the shortage of Air Traffic Controllers (ACTOs) worldwide. This shortage translates into reduced capacity, air traffic delays and time pressure on the current ATCO workforce, leading to deteriorating working conditions and further delays.

The current way to calculate the number of ATCOs needed at a given moment based on traffic demand, is quite simple and straightforward. It is based on personnel data and operational data on opening times of sectors to cover air traffic demand.

The main problem with this planning approach is that operational requirements, staffing data and availability of ATCOs are viewed as separate factors in a static context, resulting in a snapshot of the budgetary number of controllers needed. It does not take into account the interdependencies of the various factors and their effect on the number of ATCOs actually needed over time and the consequences for recruitment selection and training of ATCOs.

- MP requires balancing the required number of ATCOs with the actual pool of ATCOs available
- Decisions are required on the number of ATCOs required in most instances five years from now rather than the number needed now. This is influenced by a number of factors which are difficult to determine e.g. the number of ab initos who will be selected and who will successfully complete the training stage, etc.
- This process is dynamic in that the causes and effects are distant in time and changes occur at different timescales.

LAMPS is a generic prototype dynamic simulation model of ATCO MP which has as its core, a PC-based interface that uses graphs and tables to show the results of interactive simulation of various ATCO manpower scenarios. It shows your future manpower requirements in detail and thus facilitates your planning.

The model takes into account all variables influencing the in-flow, through-flow and out-flow of ATCOs over time. In addition, the model allows the ATCO traffic handling capacity to be modeled, thus indicating the number of ATCOs needed, taking into account training requirements, refresher training, quality aspects, availability of technical environment, etc., over a chosen time horizon.

LAMPS is based on system dynamic concepts, and runs under VENSIM® (VENtana SIMulator) and Sable® software. The model can be easily amended and refined, as appropriate, to reflect specific local requirements and conditions. The software is freely available and runs on any pc.

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