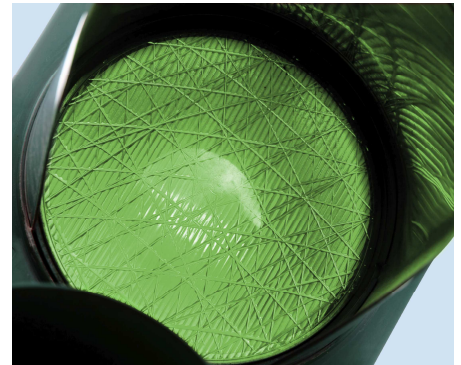


PTV BALANCE

Signal control systems - or traffic lights - are the core element of urban traffic control. To ensure optimum use of road network capacity it is essential to provide effective signal timing.

PTV Balance is the ideal software tool for professional traffic-adaptive network control.



A network controller coordinates "Green Waves" in a traffic network. With traffic-adaptive network control systems, you can also take changes in future travel demand into account.

PTV Balance enables you to react quickly and flexibly to changes in traffic volumes and it provides a comprehensive view of the traffic situation throughout the entire road network without restricting the range of local control options.

Every five minutes the software calculates traffic-adaptive signal plans for the next 5-minute period.

Microscopic control, in particular for PuT acceleration, remains in the local facility.

ALL IMPORTANT FUNCTIONS AT A GLANCE

- ▶ Measuring, verifying and aggregating detector data
- ▶ Visualising the current traffic flow in the model and displaying tailbacks
- ▶ Analysing effects and assessing control options
- ▶ Developing signal plans for networks and individual intersections
- ▶ Creating control options in the signal plan

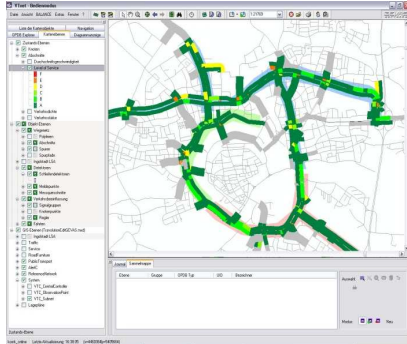
KEY ADVANTAGES

- ▶ Vendor-independent
- ▶ Integrable
- ▶ Dynamic green time without extensive planning effort
- ▶ Control remains local
- ▶ Comprehensive view of the traffic situation

INGOLSTADT & THE GREEN WAVE

Thanks to PTV Balance the City saves:

- ▶ **700,000 litres of fuel**
- ▶ **1,600 tonnes of CO2**
- ▶ **1,000,000 Euro**
- ▶ **> 20% waiting times at traffic signals per year**



Visualisation of the traffic situation

SYSTEM ARCHITECTURE

PTV Balance's system architecture allocates the signal control functionality to two different levels:

- ▶ The local or operational level covers individual intersections and reacts to short-term changes in travel demand.
- ▶ On the tactical level, the algorithm controls the medium and long-term operations within the road network (5 -15 min.).

Non-productive dead time is minimised on a central basis. Release times are precisely adjusted by the signal control system.

VISUALISATION INTERFACE:

It displays all traffic-relevant parameters, such as traffic volume, density, level-of-service and capacity as well as roadworks and actuator states, charts and journals for any period of time. Detector loops and signal groups can be controlled during operation.

SUPPLY AND QUALITY ASSURANCE

High quality of supply for signal-technological parameters and network structures is a decisive factor for efficient signal control.

PTV Balance offers the perfect supply tools which:

- ▶ Display the infrastructure in a way that allows visual supply and control
- ▶ Provide input filters for all common formats
- ▶ Do not require double supply
- ▶ Support users by providing automated checks
- ▶ Enable direct import of supply into the simulation