

In a statistical process control system we try to know and inspect the short and long time characteristic of the processes by samplings. These samplings have to be performed by a pre-defined control plan, in given time intervals, which is defined by the “speed” of the process’s change or by occurrence of an event which have an effect on the process.

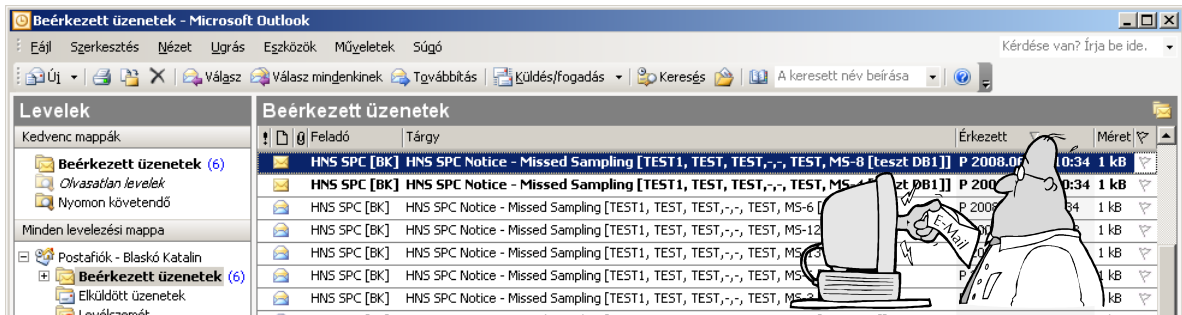
If required samplings are not performed in the specified time range, then the operation of the process control system is not ensured.

Sampling control service ensures that required samplings will be performed in the specified time range; otherwise competent persons will be informed about missed sampling.

The basis of the control function, that the program calculates the following sampling time - according to rules defined by an engineer, and then checks whether this sampling (data input) is performed.

Samplings can be scheduled with given time frequency, or by occurrence an event (for example tool change, LOT change, material change, shift-start or after producing certain number of pieces). These sampling events have to be entered in the program by the user manually, or the program will be informed about it automatically (for example by the controller of the production machine). It is possible to use sampling control by time and by events together - as regular and special samplings.

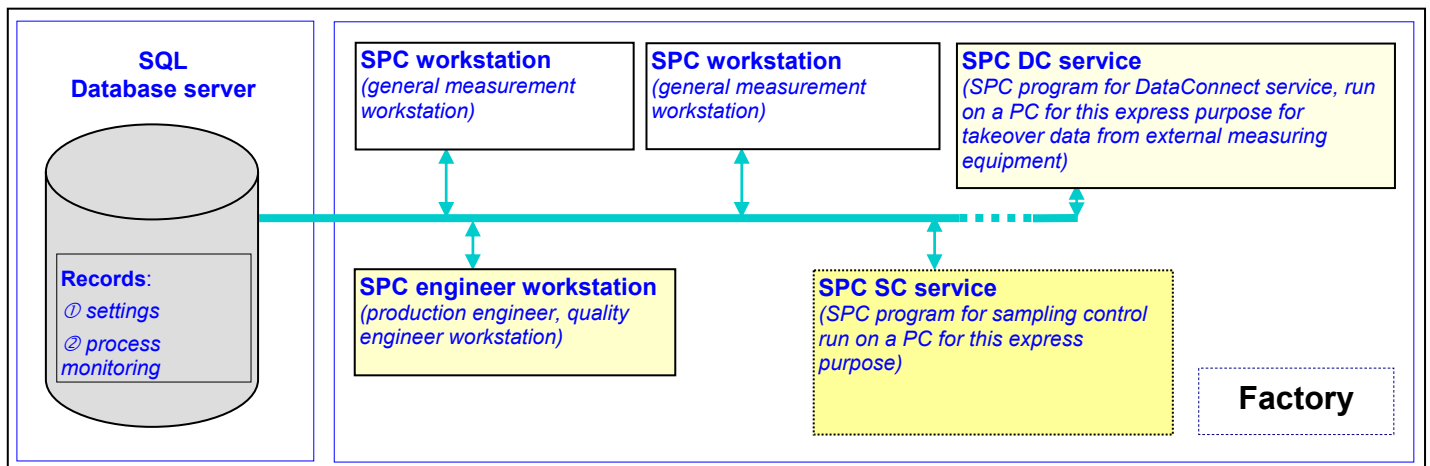
If a sampling is not performed related to the given process till specified term, then competent persons will be informed by an e-mail.



Following samplings (specified sampling time and term of sampling) can be seen in a table for operator and also engineer access level.

Samplings will be safer by using this function, and monitoring can be performed simply and by relatively little need time by taking advantage of measuring programs.

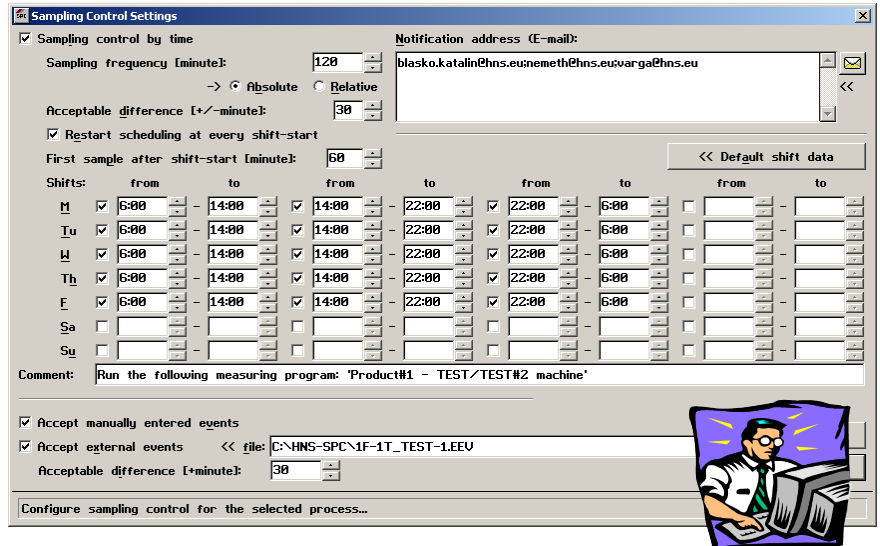
Sampling function can be run in the background on either SPC workplace, or on a PC for this express purpose.



## Sampling control functions

### 1. Settings the sampling frequency related to (measured and attributed) processes

- Monitored processes should be appointed.
- Sampling control (sampling frequency) settings should be given among process settings.
- Sampling can be defined by time and by events, which are entered manually or detected automatically, or by time and by events together.
- Necessary settings in case of sampling by time:
  - shifting (production time),
  - sampling frequency,
  - acceptable difference compared to proposed sampling time,
  - absolute or relative (real sampling time is taken into account) sampling time calculation,
  - sampling time calculation is continued or restarted in every shift,
  - first sampling after shift-start.
- Necessary settings in case of sampling by event:
  - in case of manually entered events: defining the possible events and selecting processes (whereby a prompt sampling is necessary in case of occurrence this event),
  - in case of automatically detected events: file name and path, wherein entries about events will be written,
  - when have to be prepared the sampling at latest compared to occurrence an event.



### 2. Sampling control

- Inspection the status of scheduled samplings.
- Scheduling following sampling times (in case of sampling or when the term of sampling runs out).

### 3. Sending e-mail in case of missed sampling

- Program sends automatic notice to selected e-mail addresses about missed sampling.

### 4. Status matrix

- Following samplings and their status are displayed in the status matrix.

Statuses:

- sampling is not actual,
- sampling can be done,
- sampling is actual,
- sampling is missed (term of sampling runs out).

