

CLAIMS

1. A method for providing and assembling scaffolding units, each of which will be assembled from individual scaffolding components for constructing an industrial plant, in particular a petroleum refinery, comprising the following steps:

- 5 (a) providing a 3D construction plan of the industrial plant;
- (b) providing a construction schedule for the industrial plant, depicting the individual sections of construction of the industrial plant to be realized simultaneously and/or successively;
- 10 (c) selecting and drawing of scaffolding units to be used in the individual sections of construction of the industrial plant in the 3D construction plan;
- (d) specifying the erection time required to erect the respective scaffolding unit;
- (e) specifying the dismantling time required to dismantle the respective scaffolding unit;
- (f) dividing the construction schedule into time intervals;
- 15 (g) calculating for every single time interval, while taking into consideration the erection and dismantling times of the scaffolding units, the respective number of scaffolding components of identical design which are used simultaneously;
- (h) determining the maximum number of scaffolding components of identical design which are used simultaneously across all time intervals;
- 20 (i) providing, for constructing the industrial plant, the maximum number of scaffolding components of identical design including a defined number of a buffer of scaffolding components of identical design;
- (j) beginning of assembly of the scaffolding units to be used in a respective section of construction from the scaffolding components each required for this purpose on-site at a point in time chosen in dependency of the specified erection time each at the latest prior to a start of construction in the respective section of construction specified in the construction schedule.
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2. A method according to Claim 1, in which during construction of the industrial plant, the following steps are carried out at intervals, in particular on a daily basis:

obtaining a current status of the construction progress of the industrial plant and determining the deviations of the construction progress from the construction plan of the industrial plant;

adapting the construction schedule to the current status of the construction progress, in which steps 1(f) and 1(g) are repeated; and

increasing a defined number of a buffer of scaffolding components of identical design for the further construction of the industrial plant, if the maximum number of scaffolding components of identical design which are used simultaneously during the future time intervals of the adapted time schedule is greater than the number of available scaffolding components of identical design.

3. A method according to Claim 1, in which the construction schedule is divided into equal time intervals.

4. A method according to Claim 3, in which the construction schedule is divided into time intervals of 8, 12 or 24 hours length.

5. A method according to Claim 1, in which the erection time of the respective scaffolding unit is specified depending on the number of scaffolding components necessary for erection of the scaffolding unit and/or depending on the projected height of the scaffolding unit.

6. A method according to Claim 1, in which determining the number of scaffolding components of identical design which are used simultaneously across all time intervals is, in each case, performed by taking into consideration the transfer times of the scaffolding components from a respective job or storage site to a respective construction section.

7. A method according to Claim 1, in which, in method steps (d) and (e), available weather and/or climate data for the geographic location of the industrial plant to be erected are considered.

8. A method according to Claim 1, in which method steps (d) and (e) are carried out by taking into consideration a number of scaffolders available or in which the number of scaffolders available is provided for carrying out method steps (d) and (e).

9. A method according to Claim 1, in which a computer software is used.

10. A method according to Claim 9, in which, by means of the computer software and a transmission and receiver unit coupled with the software, at least part of the scaffolders, are

provided with a work order for assembling the scaffolding units for a respective construction section from the scaffolding components necessary for the scaffolding units at the location of the respective construction section by radio.

11. A method according to Claim 9, in which, by means of the computer software and a
5 transmission and receiver unit coupled with the software, transport workers are provided with a transport order for transporting the scaffolding components necessary for assembling of the scaffolding units to the location of the respective construction section by radio.

12. A method according to Claim 10, in which a receipt and/or completion of the order is
10 confirmed with a wireless mobile device and documented electronically by means of the software.