

# service offer

abstract of our service offer



## basic engineering

*Elaboration of process- and project- documents*

- balances (mass-balance, etc.)
- block diagram <sup>1)</sup>
- process flow sheet <sup>1)</sup>
- piping & instrument diagram <sup>1)</sup>
- process development and process design (transfer of innovation / technology)
- elaboration of specification
- request of standard price and offers
- matching from offers and recommend for offer
- process optimization
- process simulation <sup>2)</sup>
- control technology: function description and functional diagramm <sup>3)</sup>
- ...

## detail engineering

*Elaboration of technical specifications, documents, ... for realization*

- consideration of local facts as design loads, etc.
- elaboration of specification
- space assignment plan
- as built - documentation
- ...

## government agency

- assist and elaborate the approval procedure for licensing application
- ...

## process safety engineering

- risk management - elaborate risk analyses <sup>4)</sup>
- safety engineering for plants, apparatus and equipment
- fire- and explosion protection <sup>5)</sup>
- ...

## projectmanagement (GPM / IPMA) <sup>6)</sup>

assistance and realization of project

## qualification and validation

- risk management and risk analysis (GMP)
- assist and execute the qualification and validation process
- ...

## other activities

- elaboration of product concept catalogue / customer requirement specification <sup>3)</sup>
- documentation
- elaboration of hand books, instruction manuals, operating instructions, user's information
- waste water analysis
- measurement and evaluation of emission
- ...

<sup>1)</sup> according to DIN EN ISO 10628 (former DIN 28004) and to DIN 19227,...

<sup>2)</sup> Chemcad

<sup>3)</sup> VDI-RL 2519 Blatt 01 "Vorgehensweise bei der Erstellung von Lasten-/Pflichtenheft"

<sup>4)</sup> HAZOP • failure mode and effects analysis (FMEA) – DIN 25424 • DIN 25448, event tree analysis - DIN 25419

<sup>5)</sup> European directives 94/9/EC and 1999/92/EC (ATEX 100a for "trade use" resp. ATEX 118a for "safe use")

<sup>6)</sup> IPMA = International Project Management Association • GPM = German Association for Project Management

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