Product Launch

Transfer the following verbal description into an EPC:

a) To launch/relaunch a product, the design department needs to prepare a raw design according to the product specification using the CAD-system.

b) Once the raw design is completed, the following departments test if the product meets their requirements: the sales, the purchasing, the manufacturing and the quality control department.

c) Should the tests fail in one of the departments, then the raw design is revised and the modified product is tested again by all departments.

d) Once the tests are successful, the departments give instructions to the design department to prepare the final design. Thereafter the drafting department prepares the final design.

e) The finally drafted product is tested like the raw design (see b).

f) After successfully testing the drafted product, the drafting department prepares the documentation and the process is completed.

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                    ┌──────────────┐
                    │   Product    │
                    │  launch/     │
                    │  relaunch    │
                    └──────┬───────┘
                           │
                        ( XOR )◄──────────────────────────────────────┐
                           │                                          │
   ┌──────────────┐   ┌────┴─────┐     ( Design Dept. )   ┌─────────┐ │
   │  CAD-Design  │   │ Prepare  │──────────┬─────────────│  CAD-   │ │
   │   Product    │───│   raw    │          │             │ System  │ │
   │specification │   │  design  │──────────┴─────────────└─────────┘ │
   └──────────────┘   └────┬─────┘                                    │
                           │                                          │
                    ┌──────┴───────┐                                  │
                    │  Raw design  │                                  │
                    │  completed   │                                  │
                    └──────┬───────┘                                  │
                           │                                          │
                        (  ∧  )                                       │
      ┌────────────┬────────┼──────────────────┬───────────────────┐ │
      │            │        │                  │                   │ │
 (Sales Dept.)(Purchasing (Manufacturing   (Quality             │ │
  │             Dept.)      Dept.)         control Dept)          │ │
┌───┴────┐   ┌───┴────┐   ┌────┴───┐      ┌────┴─────┐            │ │
│  Test  │   │  Test  │   │  Test  │      │Test quality│          │ │
│customer's│ │purchasing│ │manufacturing│ │requirements│          │ │
│requirements│requirements│requirements│  └────┬─────┘            │ │
└───┬────┘   └───┬────┘   └────┬───┘           │                 │ │
  (XOR)        (XOR)         (XOR)           (XOR)                │ │
  ┌─┴─┐        ┌─┴─┐         ┌─┴─┐           ┌─┴─┐                │ │
 Neg Pos      Neg Pos      Pos Neg         Pos Neg                │ │
  │   │        │   │        │   │           │   │                 │ │
  └───┼────────┴───┼────────┘   └───────────┘   └─────────────────┘ │
      │            │                                                 │
      └────────────┴──────────( ∧ )◄─────────────────────────────────┘
                                │
                         ┌──────┴───────┐
                         │Instruct Design│  (Purchasing  (Quality
                         │  Dept. to     │    Dept.)     control
                         │ prepare final │ (Sales (Manufacturi  Dept)
                         │    design     │  Dept.) ng Dept.)
                         └──────┬───────┘
                                │
                         ┌──────┴───────┐
                         │ Design Dept. │
                         │  instructed  │
                         └──────┬───────┘
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                                    ↓
                                  (XOR)
                              ┌─────────┐  ╭──────────╮     ┌─────────┐
┌──────────────┐             │         │  │ Drafting │     │ CAD-    │
│ CAD-Design   │             │ Prepare │  │  Dept.   │     │ System  │
│ Product      ├─────────────┤ final   ├──┴──────────┴─────┤         │
│ specification│             │ design  │                   └─────────┘
└──────────────┘             └────┬────┘
                                  ↓
                          ⬡ Final design
                            completed ⬡
                                  ↓
                                 (∧)
        ┌──────────┬──────────────┼──────────────┬──────────────────────┐
        │          │              │              │                      │
   ╭─────────╮ ╭──────────╮  ╭──────────╮   ╭────────────╮        ╭─────────╮
   │Sales Dept│ │Purchasing│  │Manufactur│   │  Quality   │
   ╰────┬────╯ │  Dept.   │  │ ing Dept.│   │control Dept.│
   ┌────┴────┐ ╰────┬─────╯  ╰────┬─────╯   ╰─────┬──────╯
   │  Test   │ ┌────┴────┐   ┌────┴────┐     ┌────┴────┐
   │customer's│ │  Test   │   │  Test   │     │Test     │
   │requirements│ │purchasing│  │manufacturing│  │quality  │
   └────┬────┘ │requirements│ │requirements│   │requirements│
        │      └────┬────┘   └────┬────┘     └────┬────┘
        ↓           ↓              ↓               ↓
       (XOR)       (XOR)          (XOR)           (XOR)
      ┌──┴──┐     ┌──┴──┐        ┌──┴──┐         ┌──┴──┐
      ↓     ↓     ↓     ↓        ↓     ↓         ↓     ↓
  ⬡Negative⬡ ⬡Positive⬡ ⬡Negative⬡ ⬡Positive⬡ ⬡Positive⬡ ⬡Negative⬡ ⬡Positive⬡ ⬡Negative⬡
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Test customer's requirements — Sales Dept.

Test purchasing requirements — Purchasing Dept.

Test manufacturing requirements — Manufacturing Dept.

Test quality requirements — Quality control Dept.

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                                 (∧)
┌──────────────┐             ┌──────────┐  ╭──────────╮   ┌─────────┐
│ CAD-Design   │             │          │  │ Drafting │   │ CAD-    │
│ Product      │             │ Prepare  │  │  Dept.   │   │ System  │
│ specification├─────────────┤documenta-├──┴──────────┴───┤         │
│ Raw design   │             │ tion     │                 └─────────┘
│ Final design │             └────┬─────┘
└──────────────┘                  ↓
                            ⬡ Process ⬡
                            ⬡completed ⬡
```