



# Hvordan holder vi styr på hundredvis af krav til ventilation, luftarter, varme og køl?

Netværksdage - 11. september 2018



REGION SJÆLLAND  
SJÆLLANDS UNIVERSITETSHOSPITAL



*- vi er til for dig*

## Formålet med kravdatabasen

- sikre opfølgning på om krav er håndteret og løst på en hensigtsmæssig og forsvarlig måde
  - tydeliggøre indhold af krav for både bygherreorganisation og totalentreprenøren
  - dokumentere kravprocessen både i form af totalentreprenørs kravhåndtering samt bygherres ændringshåndtering af krav
-

## Description of datafields in Modern Requirement

**Blue fields** are Region Sjælland - **Green fields** are Itinera – White fields are shared

The state of the requirement is specified in this datafield

Contains the requirements from the designmanuals. These are not to be altered.

This datafield is to be filled out by ITINERA with a link to clarification proposal on Byggeweb.

This datafield is to be filled out by Region Sjælland with a link to clarification proposal on Byggeweb.

If there has been any changes to the original requirement during phase 1, the final requirement will be rewritten in this datafield by Region Sjælland. If there has been no changes it is to be indicated in the separate datafield.

This datafield is to be filled out by ITINERA with a link to proposed solution on Byggeweb.

The screenshot shows a requirement management interface with the following data fields and values:

- State:** Proposed
- Area:** RS-USK-TE01
- Reason:** New
- Iteration:** RS-USK-TE01
- Updated:** 08-05-2018
- Oprindeligt krav (DK) [Ikke ændres]:** Planning
- Original requirement (DK) [Do not change]:** Level of approval by client
- Requirement clarification proposal from Itinera:** Requirement unchanged in Phase 1
- Requirement clarification proposal from client:** False
- Endeligt krav (Final requirement in danish):** Tender document version 2.0
- Final requirement in UK indicative translation:** Assigned To: Tommy Steen Møller
- Løsningsforslag (Proposed solution):** Accepted By: Unassigned
- Discussion:** Conditional approval
- Conditional approval of certification pro...:** To be filled out by Region Sjælland
- Conditional approval of proposed soluti...:** To be filled out by Region Sjælland
- Related Work:** Add link, Parent: 2386 5 Dimensioneringsgrun... Updated 08-05-2018, Proposed
- Build and test:** Cx follow-up
- Subject Matter Experts:** Subject matter expert 1: Tommy Steen Møller, Subject matter expert 2: Unassigned, Subject matter expert 3: Unassigned

Datafield that indicates the level of approval by the client.

Indicates possible relations to other requirements. It is optional to use the datafield.

Indicates if the requirement is the subject of cx follow-up

To be filled out by Region Sjælland. Required information: by whom, date and where in Byggeweb the decision document is.

The person who has made the acceptance in Modern Requirements is also stated.

Indicates who is currently responsible for the task

Specifies the responsible person at Region Sjælland and ITINERA

# STATES

## Proposed

- Ownership: Region Sjælland
- Task: decide if and when the requirement is handed over to Itinera
- State: move state to “Active”
- Assign: assign it to Itinera or close requirement



## Active

- Ownership: Itinera
- Task: decide whether there is need for clarification of the requirement. Change request might come from Region Sjælland in “Requirement clarification from client” – if this is the case Region Sjælland will make a explicit notice to Itinera.
- State: 1) if clarification is needed (either from Region Sjælland or Itinera) then Itinera move to “Requirement clarification for conditional approval” and refer to the clarification proposal on Byggeweb. 2) If no clarification is needed then type “True” in “Requirement unchanged in Phase 1” and move state to “Solution Proposal”.
- Assign: assign the work item to Region Sjælland (if clarification) or Itinera (if no clarification is needed).



## Solution proposal

- Ownership: Itinera
- Task: Itinera is preparing a solution proposal
- State: Move to “Solution for conditional approval” and refer to the clarification proposal on Byggeweb.
- Assign: assign the work item to Region Sjælland



## Requirement clarification complete

- Ownership: Itinera
- Task: Consider if renounces of the requirement is correct.
- State: If “Yes” then move state to “Solution Proposal”. If “No” then contact Region Sjælland and move state to “Requirement clarification for conditional approval”.
- Assign: assign work to Itinera (if “Yes”) or Region Sjælland (if “No”)



## Requirement clarification for conditional approval

- Ownership: Region Sjælland
- Task: Region Sjælland evaluates the clarification proposal and send answer to Itinera. Region Sjælland renounces the requirement
- State: move state to “Requirement clarification complete” and refer to decision document on Byggeweb.
- Assign: assign the work item to Itinera



## Solution for conditional approval

- Ownership: Region Sjælland
- Task: Region Sjælland evaluates the solution proposal and send answer to Itinera.
- State: Move state to “Solution proposal complete” and refer to decision document on Byggeweb.
- Assign: assign the work item to Itinera



## Solution proposal complete

- Ownership: Itinera
- Task: Consider answer from Region Sjælland
- State: If OK then move state to “Closed”. If further process is needed contact Region Sjælland.
- Assign: Assign the work item to Region Sjælland.



## Closed

- Ownership: Region Sjælland
- Task: Fill out “Accepted by” with name and date. When all requirements are closed a updated Design Manual will be prepared
- State: No further action/remain “Closed”
- Assign: Assign the work item to ASGR/COWI.

# STATES

## Proposed

- Ownership: Region Sjælland
- Task: decide if and when the requirement is handed over to Itinera
- State: move state to “Active”
- Assign: assign it to Itinera or close requirement



## Active

- Ownership: Itinera
- Task: decide whether there is need for clarification of the requirement. Change request might come from Region Sjælland in “Requirement clarification from client” – if this is the case Region Sjælland will make a explicit notice to Itinera.
- State: 1) if clarification is needed (either from Region Sjælland or Itinera) then Itinera move to “Requirement clarification for conditional approval” and refer to the clarification proposal on Byggeweb. 2) If no clarification is needed then type “True” in “Requirement unchanged in Phase 1” and move state to “Solution Proposal”.
- Assign: assign the work item to Region Sjælland (if clarification) or Itinera (if no clarification is needed).



## Solution proposal

- Ownership: Itinera
- Task: Itinera is preparing a solution proposal
- State: Move to “Solution for conditional approval” and refer to the clarification proposal on Byggeweb.
- Assign: assign the work item to Region Sjælland



## Requirement clarification complete

- Ownership: Itinera
- Task: Consider if renounces of the requirement is correct.
- State: If “Yes” then move state to “Solution Proposal”. If “No” then contact Region Sjælland and move state to “Requirement clarification for conditional approval”.
- Assign: assign work to Itinera (if “Yes”) or Region Sjælland (if “No”)



## Requirement clarification for conditional approval

- Ownership: Region Sjælland
- Task: Region Sjælland evaluates the clarification proposal and send answer to Itinera. Region Sjælland renounces the requirement
- State: move state to “Requirement clarification complete” and refer to decision document on Byggeweb.
- Assign: assign the work item to Itinera



## Solution for conditional approval

- Ownership: Region Sjælland
- Task: Region Sjælland evaluates the solution proposal and send answer to Itinera.
- State: Move state to “Solution proposal complete” and refer to decision document on Byggeweb.
- Assign: assign the work item to Itinera



## Solution proposal complete

- Ownership: Itinera
- Task: Consider answer from Region Sjælland
- State: If OK then move state to “Closed”. If further process is needed contact Region Sjælland.
- Assign: Assign the work item to Region Sjælland.



## Closed

- Ownership: Region Sjælland
- Task: Fill out “Accepted by” with name and date. When all requirements are closed a updated Design Manual will be prepared
- State: No further action/remain “Closed”
- Assign: Assign the work item to ASGR/COWI.

## Description of datafields in Modern Requirement

**Green fields** are Itinera – **White fields** are shared

The state of the requirement is specified in this datafield

This datafield is to be filled out by ITINERA with a link to clarification proposal on Byggeweb.

This datafield is to be filled out by ITINERA with a link to proposed solution on Byggeweb.

Indicates who is currently responsible for the task

The screenshot shows a requirement management interface for requirement 2390. The interface includes a header with navigation tabs (Work Items, Backlogs, Queries, Smart Docs, SmartNote, Alice (Bot), FAQ, Diagram, Simulation and Use case, Review, Trace Analysis) and a search bar. The main content area displays the requirement details, including its title, creator, and various data fields. The data fields are organized into sections: Planning, Related Work, Build and test, and Subject Matter Experts. The 'Original requirement (UK) [Do not change]' field is highlighted in green. The 'Requirement clarification proposal from Itinera' field is also highlighted in green. The 'Assigned To' field shows 'Tommy Steen Møller' as the assigned person. The 'Conditional approval' section includes a note: 'To be filled out by Region Sjælland'.

Indicates possible relations to other requirements. It is optional to use the datafield.

Specifies the responsible person at Region Sjælland and ITINERA

## Description of "Requirement clarification proposal" and "Proposed solution"

### Requirement clarification proposal

In this datafield it is to be described where the requirement clarification proposal is found on Byggeweb.

Example:

"Proposed change in requirement 2390 is described in Byggeweb-document USK\_TE01\_TE\_C05\_xxx as discussed in meeting 04.06.2018 (USK\_TE01\_TE\_C06\_CXx\_xxx)"

Use deep links to Byggeweb.

### Proposed solution

In this datafield it is to be described where the proposed solution is found on Byggeweb.

Example:

"Proposed solution to requirement 2390 is described in Byggeweb-document USK\_TE01\_TE\_C07\_xxx as discussed in meeting 04.06.2018 (USK\_TE01\_TE\_C06\_PMx\_xxx)"

Use deep links to Byggeweb.

The screenshot displays a web application interface for managing requirements. The main content area shows a requirement item titled "2390 5.4 Varmeflader i ventilationsaggregater og zonevarmeflader / Heating coils in air handling units and zone heating co...". The requirement is in a "Proposed" state and is associated with the area "RS-USK-TE01". The reason for the requirement is "New" and it is in iteration "RS-USK-TE01". The requirement was updated on "08-05-2018".

On the left side, there is a list of related items with deep links:

- Oprindeligt krav (DK) [Må ikke ændres]
- Original requirement (UK) [Do not change]
- Requirement clarification proposal from Itinera
- Requirement clarification proposal from client
- Endeligt krav (Final requirement in danish)
- Final requirement in UK indicative translation
- Løsningsforslag (Proposed solution)
- Discussion

On the right side, there are several sections:

- Planning**: Level of approval by client, Requirement unchanged in Phase 1 (set to False), Tender document version 2.0, Assigned To Tommy Steen Møller, Accepted By Unassigned.
- Conditional approval**: Conditional approval of clarification pro... To be filled out by Region Sjælland, Conditional approval of proposed soluti... To be filled out by Region Sjælland.
- Related Work**: Add link, Parent, 2386 5 Dimensioneringsgrun... Updated 08-05-2018, Proposed.
- Build and test**: Cx follow-up.
- Subject Matter Experts**: Subject matter expert 1 Tommy Steen Møller, Subject matter expert 2 Unassigned, Subject matter expert 3 Unassigned.

## Description of datafields in Modern Requirement

**Blue fields** are Region Sjælland - White fields are shared

The state of the requirement is specified in this datafield

Contains the requirements from the designmanuals. These are not to be altered.

In case of proposal from Region Sjælland on change in requirement this datafield is to be filled out by Region Sjælland with a link to clarification proposal on Byggeweb.

If there has been any changes to the original requirement during phase 1, the final requirement will be rewritten in this datafield by Region Sjælland. If there has been no changes it is to be indicated in the separate datafield. A indicative English translation is made.

The screenshot shows a web-based requirement management system. The main content area displays details for requirement 2390, including its title, creator (Tommy Steen Møller), and various data fields. The 'Details' sidebar on the right shows the requirement's status (Proposed), its parent requirement (2386), and a list of subject matter experts. Blue callout boxes from external text blocks point to specific fields in the interface.

Indicates possible relations to other requirements. It is optional to use the datafield.

Indicates if the requirement is subject of cx follow-up

Indicates who is currently responsible for the task

Specifies the responsible person at Region Sjælland and ITINERA



## Description of datafields in Modern Requirement

**Blue fields** are Region Sjælland - White fields are shared

The screenshot shows a requirement card for '2390 5.4 Varmeflader i ventilationsaggregater og zonevarmeflader / Heating coils in air handling units and zone heating co...'. The card includes a list of datafields on the left and a details panel on the right. Blue fields indicate fields managed by Region Sjælland, while white fields are shared. A blue line highlights the 'Accepted By' field in the details panel.

Datafield	Value
Oprindeligt krav (DK) [Må ikke ændres]	Planning
Original requirement (UK) [Do not change]	Level of approval by client
Requirement clarification proposal from Itinera	Requirement unchanged in Phase 1
Requirement clarification proposal from client	<input type="checkbox"/> False
Endeligt krav (Final requirement in danish)	Tender document version
Final requirement in UK indicative translation	2.0
Løsningsforslag (Proposed solution)	Assigned To
Discussion	Tommy Steen Møller
	Accepted By
	Unassigned
	Conditional approval
	Conditional approval of clarification pro...
	To be filled out by Region Sjælland
	Conditional approval of proposed soluti...
	To be filled out by Region Sjælland

Details panel:

- Level of approval by client
- Requirement unchanged in Phase 1
- Tender document version: 2.0
- Assigned To: Tommy Steen Møller
- Accepted By: Unassigned
- Conditional approval
- Conditional approval of clarification pro...
- To be filled out by Region Sjælland
- Conditional approval of proposed soluti...
- To be filled out by Region Sjælland

Datafield that indicates the level of approval by the client. To be used for queries when decision-resolution to project management and programme management.

“Accepted by” is used when the requirement is closed after the approval of the proposed solution. Name and date is to be filled in.

To be filled out by Region Sjælland. Required information: by whom, date and where in Byggeweb the decision document is.

Proposed solution

In this datafield it is to be described where the conditional approval of clarification and proposed solution is found on Byggeweb.

Example:

“Proposed solution to requirement 2390 is discussed and accepted in meeting 08.06.2018 (USK\_TE01\_BH\_C06\_xxx)”

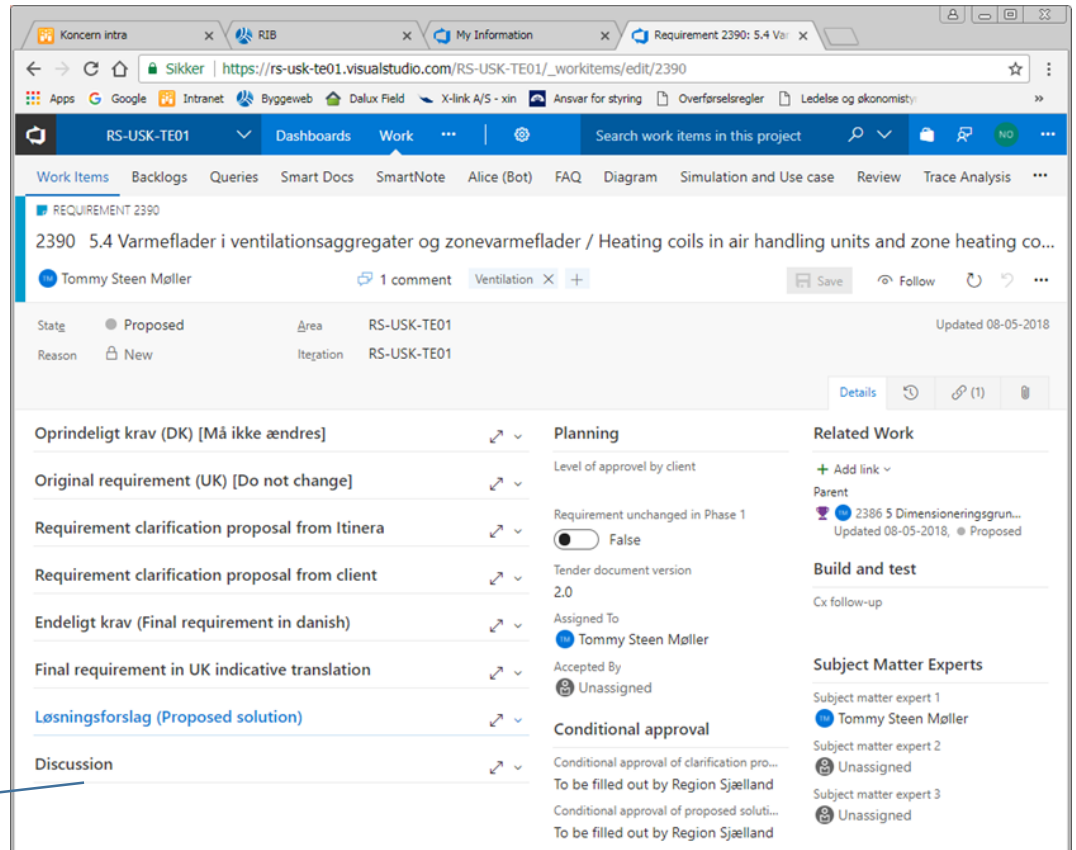
Use deep links to Byggeweb.

## Description of "Discussion"

### Discussion

In the discussion datafield it is possible to write messages to one another.

By using the @-sign the message is connected to a specific person and a notification is send.



The screenshot displays a web application interface for managing requirements. The browser address bar shows the URL: [https://rs-usk-te01.visualstudio.com/RS-USK-TE01/\\_workitems/edit/2390](https://rs-usk-te01.visualstudio.com/RS-USK-TE01/_workitems/edit/2390). The page title is "REQUIREMENT 2390" and the main heading is "2390 5.4 Varmeflader i ventilationsaggregater og zonevarmeflader / Heating coils in air handling units and zone heating co...". The user "Tommy Steen Møller" is logged in, and there is "1 comment" under the "Ventilation" category. The requirement is in a "Proposed" state, with a "Reason" of "New".

The "Discussion" datafield is highlighted with a blue box and a line pointing to the text in the left-hand box. The discussion field contains a list of items:

- Oprindeligt krav (DK) [Må ikke ændres]
- Original requirement (UK) [Do not change]
- Requirement clarification proposal from Itinera
- Requirement clarification proposal from client
- Endeligt krav (Final requirement in danish)
- Final requirement in UK indicative translation
- Løsningsforslag (Proposed solution)
- Discussion

Other sections visible in the screenshot include "Planning" (Level of approval by client, Requirement unchanged in Phase 1, Tender document version 2.0), "Conditional approval" (Conditional approval of clarification pro..., To be filled out by Region Sjælland), "Related Work" (Add link, Parent, 2386 5 Dimensioneringsgrun...), and "Subject Matter Experts" (Subject matter expert 1, Tommy Steen Møller, Subject matter expert 2, Subject matter expert 3).

# BACKLOGS

Level of hierarchy  
MR has 3 levels of hierarchy for work items

Product backlog  
Breakdown structure similar to the tender material.  
Double click on a work item and it opens

Columns with information can be added

Order	Work Item Type	Title	ID	State	Tags	Assigned To	Tender c
/	Epic	Koncepter og principper for Projekt Universitetshospital Køge / Concepts and principles for Proje...	2111	Proposed	Koncepter og principper fo...	Lene Stevnhoved	1.0
8	Epic	Nedrivningsbeskrivelse / Demolition Description	2750	Proposed	Nedrivningsbeskrivelse	Ole Vang Ipsen	1.0
9	Epic	Teknisk Designmanual - Koncept Forsyninger / Design Manual - Concept Supplies	2749	Proposed	Koncept Forsyninger	Tommy Steen Mall...	1.0
	Feature	1 Indledning / Introduction	2714	Proposed	Koncept Forsyninger	Tommy Steen Mall...	1.0
	Feature	2 Hovedforsyninger / Main supplies	2715	Proposed	Koncept Forsyninger	Tommy Steen Mall...	1.0
	Requirement	2.1 Varmeforsyning / Heat supply	2716	Proposed	Koncept Forsyninger	Tommy Steen Mall...	1.0
	Requirement	2.2 Varmt brugsvand / Domestic hot water	2717	Proposed	Koncept Forsyninger	Tommy Steen Mall...	1.0
	Requirement	2.3 Køleforstyrning / Cooling supply	2718	Proposed	Koncept Forsyninger	Tommy Steen Mall...	1.0
	Requirement	2.4 El-forsyning / Electrical supply	2719	Proposed	Koncept Forsyninger	Tommy Steen Mall...	1.0
	Requirement	2.5 Vandforsyning / Water supply	2720	Proposed	Koncept Forsyninger	Tommy Steen Mall...	1.0
	Requirement	2.6 Luftarter / Gases	2721	Proposed	Koncept Forsyninger	Tommy Steen Mall...	1.0
	Requirement	2.6.1 Ilt / Oxygen	2722	Proposed	Koncept Forsyninger	Tommy Steen Mall...	1.0
	Requirement	2.6.2 Trykluft, medicinsk og teknisk / Compressed air, medical and technical	2723	Proposed	Koncept Forsyninger	Tommy Steen Mall...	1.0
	Requirement	2.6.3 Vakuum / Vacuum	2724	Proposed	Koncept Forsyninger	Tommy Steen Mall...	1.0

# WORK ITEMS

## Filter work items

'Assigned to me' shows all the work items assigned to you where you need to take action.

'Following' shows all the work items you are following. Click on 'follow' when you open a work item to follow the process.

'Mentioned' shows all the work items where you are tagged by using @ in the discussion thread.

## Filter by meta data

Apply filter to find the required work items

The screenshot shows the Visual Studio Work Items interface. The 'Work' menu item is circled in red. Below it, the 'Assigned to me' filter is also circled in red. The table below shows the following work items:

Item ID	Area Path	State	Tags	Changed Date
3034	Projektering / Design	Proposed	Byggesags...	24-05-2018 07:12
3036	Bæredygtighed og certificering / Sustainability and certification	Proposed	Byggesags...	24-05-2018 07:12
3020	0.01 Hjælpemidler	Proposed	Unikrum	22-03-2018 07:42
3037	UR19.01 Auditorium	Proposed	Unikrum	22-03-2018 07:42
3022	UR20.02 Kantine	Proposed	Unikrum	22-03-2018 07:42
3038	UR20.03 Hørebooks	Proposed	Unikrum	22-03-2018 07:42
3024	UR20.03 Kiosk	Proposed	Unikrum	22-03-2018 07:42
3039	UR20.05 Mikroskop	Proposed	Unikrum	22-03-2018 07:42
3026	UR20.04 Medicinudlevering	Proposed	Unikrum	22-03-2018 07:42
3034	UR11.01 HDR	Proposed	Unikrum	22-03-2018 07:42
3039	UR20.05 Produktion og servering	Proposed	Unikrum	22-03-2018 07:42
3026	UR11.03 Mould	Proposed	Unikrum	22-03-2018 07:42

## Hva' koste'rn?

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**Den samlede udgift for Region Sjælland frem til 2024 forventes at udgøre i alt ca. 170.000 kr.**

- Engangsudgift  $\approx$  75.000 kr.
    - Modern Requirements startomkostning \$11.000 svarende til ca. 70.000 kr.
    - VSTS-server \$400 svarende til ca. 2.600 kr.
  - Årlig udgift  $\approx$  15.000 kr.
    - Modern Requirements årlig udgift på \$2.100, svarende til ca. 13.000 kr.
    - VSTS-server årlig udgift ca. \$400, svarende til ca. 2.600 kr.
  - Samlet udgift 2018-2024: 75.000 kr. + 15.000 kr. x 6 år  $\approx$  170.000 kr.
  
  - Udgiften i forbindelse med totalentreprenørens adgang og brug af systemet afholdes jf. udbudsmaterialet for TE01 af totalentreprenøren.
-