**Administrator perspective**Priority : 9 ID: 20361 Status :Unrefined!!!Administrator perspective
\* CT calibration curve administration
\* CT curve import parameters, tube current, kilo voltage etc.
\* CT maximum QA checks administration
\* correction for metal (?)
\* CT offset transformation administration
\* Beam data administration
\* Beam line administration e.g. preabsorber
\* user administration
\* Adjust tolerances on verification results
\* Input entry limits e.g. gantry angle, couch, CT etc
\* Couch administration
\* CT device administration
\* Algorithm default calculation parameters
\* Minimum / maximum spot weight

**Tests in live system for Test patient and Patbase, GPPS, SFGen, with power users**Priority : 8 ID: 20743 Status :RefinedTests in live system for Test patient and Patbase, GPPS, SFGen, with power Users

**Add ability to copy and rename (ID) a patient**Priority : 8 ID: 21201 Status :Unrefined!1Add ability to copy and rename (ID) a patient
\* In Load Patient perspective,
\* Right-click on a patient
\* Should open a mask or wizard to copy a patient.
!2 create copy of patient wizard
\* User enters new ID.
\* Push button to check ID.
\*\* push button is to avoid querying whole database after typing one letter.
\*\* other ideas welcome
\* First letter P illegal as an ID.
\* IDs should conform to 1 letter 5 number convention (to start with)
!2 Actions on check button
\* Is ID pattern conform ? Only proceed if yes.
\* Does ID already exist ? Only proceed if no.
!2 Potential options
\* (compare e.g. dicom converter)
\* select depth of patient to copy
\* copy individual planning data sets
\* structures with data sets
\* planning data sets, structures and plans
\* copy whole patient.
\* Only planning information can be copied.
!2 Out of scope
\* Cannot copy connections to surrouding systems.
\* e.g. cannot copy an assigned treatment in patbase
\* cannot copy steering files.
\* Merge of patients.
\* replace of patients.
\* No further at this point.
[!CopyingPatientWizard.png]

**Profile for Hounsfield Unit display**Priority : 8 ID: 21223 Status :Unrefined!1 Profile for Hounsfield Unit display
\* same as for dose, but with Hounsfield unit
\* profile tool which can be dragged through slice view
\* plot window pops up and shows hounsfied unit.
\* can plot window perhaps toggle between which distribution to show.
\*

**Patient Export / Dicom RTIONPLAN**Priority : 8 ID: 21235 Status :Refined!1 Patient Export / Dicom RTIONPLAN
!2 User Interface
\* Move menu option : \_\_Patient> Export > To Filesystem ...\_\_ --> opens a new wizard
\* Drop anonymise option for now
\* After finish user selects a folder
\* PatientID\_Date\_Timestamp.zip written to folder
\* Dicom files zipped into folders . One folder for each planning data set.
\* User seletcs which objects to export
\* Tree always includes 'upstream' objects.
[!DicomExport.png]

**Voxel Information**Priority : 8 ID: 21283 Status :Refined!1Voxel Information
\* implement a "voxel picker" tool to show the content of a voxel .
\*\* Hounsfield unit
\*\* Dose value
\*\* structures to which voxel is part of (?)
\*\* any Hounsfield unit overrides?

**Display coordinate transformations RTAdmin**Priority : 8 ID: 21330 Status :Unrefined!1 Display coordinate transformations RTAdmin
\* display coordinate transformations / offsets in RT Admin

**Better information when no state available from button patbase**Priority : 8 ID: 21334 Status :Unrefined!1 Better information when no state available from button patbase
\* if no state found from patbase , client shows 'failed!'
\* sometimes it has not failed, but there is actually no state.
\* improve this information.

**Patbase Dose not 0.0 when no value is found**Priority : 8 ID: 21335 Status :Unrefined!1 Patbase Dose not 0.0 when no value is found
\* patbase dose shows 0.0 if no value found.
\* value not available should be different from 0.0.
\* if patbase is down, do not expecte value to drop to zero.

**Ability to define a plan quicker**Priority : 8 ID: 21376 Status :Unrefined!1 Ability to define a plan quicker

**Define roles as collection of permissions**Priority : 7 ID: 19310 Status :Refined!1Define roles as collection of permissions
\* Expand system to include a wider set of permissions
\* An explicit list of these permissions needs to be defined
\*\* \_\_Start with\_\_: Plan approval, treatment approval, CT transformation approval, Contour approval
\* Explicitly separate permissions from roles.
\* \_\_Permission :\_\_ the allowance to perform a certain operation
\* \_\_Role :\_\_ properties of a user who has certain permissions
!2 Example of the permission - role table
\* In the admin perspective
|| Permission || Radiation Oncologist || Medical Physicist || Operational Physicist || New Role (+)
| Contour approval | (/) | (x) | (x) | -
| Plan Approval | (/) | (/) | (x) | -
| CT Transformation Approval | (/) | (/) | (x) | -
| Treatment Approval | (x) | (/) | (x) | -

**Copy plan does not copy constraints**Priority : 7 ID: 19440 Status :Unrefined!!!Copy plan does not copy constraints

**Expand the field properties display**Priority : 7 ID: 19882 Status :Accepted!!!Expand the field properties display
\* The field properties display in the context sensitive section needs to be expanded.
\* Properties should appear in a new window
\*\* gantry angle (deg), couch angle (deg)
\*\* field centre (cm)
\*\* pool
\*\* nozzle extraction (cm)
\*\* estimated airgap (cm)
\*\* Target (by label)
excluding zero weighted spots:
\* number of energy layers
\* minimum and maximum energy (MeV)
\* range of minimum and maximum energy (cm)
\* the total number of spots
\* highest and lowest weighted spots
\* Delta U (cm) , Delta T (cm)
\* Umin, Umax (cm) and Tmin, Tmax (cm)

**Invalidation rule set for partially applied treatments**Priority : 7 ID: 20635 Status :Unrefined!1Invalidation rule set for partially applied treatments

**Cache (beam) data on GPU server**Priority : 7 ID: 20801 Status :Unrefined!1 Cache (beam) data on GPU server
\* depth dose curves
\* phase space
\* (ct data ) further step
\*

**Provide versioning for beamdata to each calculation**Priority : 7 ID: 20927 Status :Unrefined!1 Provide versioning for beamdata to each calculation
\* each calculation needs to know which beamdata it was originally calculated with regardless of the current version

**Abolute Dosimetry changes**Priority : 7 ID: 20963 Status :Unrefined!1Abolute Dosimetry changes

**Synchronise treatment definition UI with current scalar dose value**Priority : 7 ID: 21054 Status :Unrefined!1Synchronise treatment definition UI with current scalar dose value

**Decide whether to Copy optimisation group and constraints when copying plans**Priority : 7 ID: 21114 Status :Unrefined!1Decide whether to Copy optimisation group and constraints when copying plans
\* The best approach when copying a plan is unclear.
\* One can either copy the plan with its optimisation group and its contraints
\* or not.
\\
\* IF the optimisation group and constraints \_\_ARE\_\_ copied,
\* THEN one must decide how to handle the scenario when the structures do not exist in the copy destination
\* THEN one must understand how to handle the scenario when the structures are present in name, but their content has been modified.
\* THEN, one must decide how to add a plan with no optimisation group to a treatment for replanning evaluations
\\
\*IF the optimisation group is not copied,
\* THEN this effects the users feedback on this topic. They are asking for a copy of all plan related parameters

**Document Structure operations**Priority : 7 ID: 21115 Status :Unrefined!1Document Structure operations
\* divide
\* center
\* others

**Contour specific HU information**Priority : 7 ID: 21177 Status :Unrefined!Contour specific HU information

**Handle conflicting Hounsfield Unit overrides**Priority : 7 ID: 21184 Status :Unrefined!1 Handle conflicting Hounsfield Unit overrides
\* How should conflicting hounsfield unit overrides be handled?
\* Two possibilities : ordering or arithmetic operations
!2 Ordering Hounsfield Unit overrides
\* Housfield unit overrides can be ordered using a UI sortable list to show which override should take priority in a conflicting situation
!3 disadvantages
\* less clear to user what is assigned
\* potentially more arithmetic work to assign HU
!2 Arithmetic overrides
\* Arithmetic unions and differences could be used to resolve conflicts .
\* in that way priorities are not needed
!3 disadvantages
\* who checks for conflicts ? user or system?
\* more work for user to define contours
\* "Tills boundary problem"?

**Pull patient from different FTPP instance (tst to dev and so on)**Priority : 7 ID: 21202 Status :Unrefined!1Pull patient from different FTPP instance (tst to dev and so on)

**Implement Table Sort on Strucutre statistics table**Priority : 7 ID: 21359 Status :Unrefined!1 Implement Table Sort on Strucutre statistics table
\* sort structures by columns.

**Improve colour map management**Priority : 7 ID: 21363 Status :Unrefined!1Improve colour map management
\* not so good at moment. counterintuitive. improve.

**Commissioning Document**Priority : 6 ID: 19315 Status :UnrefinedCommissioning Document

**Define Commissioning Tests without beam**Priority : 6 ID: 19316 Status :UnrefinedDefine Commissioning Tests without beam

**Availability monitoring of necessary services and fail-safety handling**Priority : 6 ID: 19492 Status :Unrefined!!!Availability monitoring of necessary services and fail-safety handling
\* traffic light style system showing status in client
\* server-side stable connection
\* file system available and storage capacity
\* GPU calculation server
\* Velocity

**Lock cross hairs across view parts**Priority : 6 ID: 19596 Status :Refined!!!Lock cross hairs across view parts
\* cross hairs can be displayed across views.
\* There is currently no correlation between the cross hairs.
\* Implement ability to show cross hairs on all views in one click .
\* synchronise cross hairs across views. \*where UI?\*
!2 Notes
\* Menu item in View Menu labelled "Lock Cross hairs" which can be ticked or unticked.
\* when ticked cross hair turns on in all views and is "locked"
\* locked means the cross hair moves together across all views.
\* can then be unlocked unticking the "Lock Cross Hairs" button.
\* the 'locking' does not effect the display.
\* displaying cross hairs remains a separate operation

**logfile analysis tools**Priority : 6 ID: 19668 Status :Unrefined!!!Logfile Analysis Tools
\* Show results from a logfile analysis.
\*\* Max Dose (%)
\*\* Mean Dose (%)
\*\* Minimum Dose (%)
\*\* Pass rate from matlab script
\*\* Pass rate adjustable by user
\*\* Dose Differences (/)
\*\* Profiles (Are profiles necessary in dose distributions?)
\*\* figure export

**Prescription does not stay assigned to a plan**Priority : 6 ID: 19673 Status :Unrefined!!!Prescription does not stay assigned to a plan
\* When a plan is assigned a prescription in the Optimise window,
\* Then then plan is optimised via the finish button.
\* The prescription is not kept by the plan.
!! Steps
# Create a plan with field(s)
# Create a prescription
# Right click on the plan . 'Optimise'
# Assign the plan a prescription in top drop down bar
# Optimise plan 'Finish'
# Save
# Right click on plan 'Optimise'
# Plan is unaware of prescription

**Lock coordinate system**Priority : 6 ID: 19817 Status :Unrefined!!!Lock coordinate system

**Add a check whether a plan fraction dose agrees with prescription fraction dose**Priority : 6 ID: 19843 Status :Unrefined!!!Add a check whether a plan fraction dose agrees with prescription fraction dose
\* when locking a plan which has an assigned prescription,
\* the system should check if the fraction doses between plan and prescription agree

**Dicom import needs to be able to maintain registration of several series**Priority : 6 ID: 19870 Status :Unrefined!1 Dicom import needs to be able to maintain registration of several series
!2 Introduction
\* when importing CTs from Velocity, FTPP needs to be able to maintain a registration of series' to each other
\* The registration will be a rigid registration with six degrees of freedom. Three translational, three rotational.
\* search for CTs using Patient ID , name , date or other existing search parameters
!2 Workflow
\* for more detailed steps see [word document|DOC:320274]
\* User has the first series imported already
\* This first series will be under treatment
\* Based on decision from Radiation Oncologist, an evaluation CT will be imported for dose recomputation
!3 Option 1
\* right-click on a planning data set
\* "imported registered CTs"
\* query velocity for CTs with patient ID which have registrations to this CT
\* import CT, shifted and rotated by this registration.
\* automatically display that this is an "evaluation CT" and cannot be used to steering files. (icon)
!3 Option 2
\* Two - step image set import page , first select a CT
\* second page shows its imports then display its registrations etc.
!2 Technical details
\* get registration information from velocity. Is this possible ?
\* is this feasible?
\* This may require a technical spike (?)
!2 Example Case: P18901
\* Patient P18901 has a planning CT from 18th December 2018 which is registered with a number of other imaging sets.
\* A registration entitled "f" has been published in velocity
\* according to Velocity it has the following matrix applied.
[{Table
||
||Translations (in mm)
||Rotations (in degrees)
|\_\_x\_\_
|1.65
|-1.311
|\_\_y\_\_
|-0.10
|0.377
|\_\_z\_\_
|3.69
|0.310
}]
\* Example data is available [here|DOC:320338]
!2 Example Case : P19018
\* Evaluation CT from 05.02.2019
\* Replanning CT from 26.02.2019
!2 Observations:
\* The values displayed in velocity are the shifts of and rotations relative to the selected rotation center
\* The DICOM objects contains rotations relative to and shifts of the origin (0/0/0)
\* Use the following tags to find involved CT sets:
\*\* \_\_ReferencedSeriesSequence -> SeriesInstanceUID\_\_ refers to the planning CT series
\*\* \_\_StudiesContainingOtherReferencedInstancesSequence -> ReferencedSeriesSequence -> SeriesInstanceUID\_\_ refers to the evaluation CT series
\* \_\_RegistrationSequence\_\_ contains two entries
\*\* 1st entry:
\*\*\* \_\_ReferencedImagesSequence -> FrameOfReferenceUID\_\_ refering to the evaluation CT
\*\*\*\_\_MatrixRegistrationSequence -> MatrixSequence -> FrameOfReferenceTransformationMatrix\_\_ containing the 4x4 transformation matrix from the evaluation CT to the planning CT
\*\* 2nd entry:
\*\*\* \_\_ReferencedImagesSequence -> FrameOfReferenceUID\_\_ refering to the planning CT
\*\*\*\_\_MatrixRegistrationSequence -> MatrixSequence -> FrameOfReferenceTransformationMatrix\_\_ containing the 4x4 identity matrix
!2 Import registered CT:
\* Use \_\_vtkImageReslice\_\_ and \_\_vtkTransform\_\_ to perform CT resampling/shifting (cf.VtkDoseUtils.interpolate(...))
!2 Structures
\* Determine if structure import with registration is required. If so, reslicing of structures along the z planes should be performed!

**Provide an alternative to the INFO file**Priority : 6 ID: 19898 Status :Unrefined!!!Provide an alternative to the INFO file

**Make read-only patient opening accessible via right-click menu**Priority : 6 ID: 19948 Status :Unrefined!!!Make read-only patient opening accessible via right-click menu
\* In the \_\_Patient Load\_\_ perspective, right-click on a patient and a menu should appear offering to open the patient in a read-only mode.
\* The patient should then still be available for other users to lock
\* The current user should not be able to modify any parameters of the patient.
\* Live-updates should appear if another user modifies contents of the patient.

**Display inconsistency of treatment definition between FTPP and Patbase**Priority : 6 ID: 20234 Status :Unrefined!!!Display inconsistency of treatment definition between FTPP and Patbase
\* It is possible to create an inconsistency between the treatment definition which is assigned in patbase and the one which is saved in FTPP
\* FTPP should catch such inconsistencies and make the user aware of the problem
\* Further refinement needed.
!! Options
! Option 1 : \_\_Psiplan approach\_\_ - Prevent closure of application when there are unassigend changes
\* Support a deassign button
\* Get current treatment dose from patbase
\* Allow changes which do not contradict current treatment dose
\* Re-assign
\* Only accept changes which are consistent with current treatment dose
\* Other changes overwrite current treatment model in patbase
\* Application cannot be closed if unassigned changes are present.
\* Changes can either be reverted to patbase state or changes can be assigned.
\* (?) What happens if application crashes
! Option 2 : \_\_Automatic assign pre-step\_\_ - Merge assign into an implicit pre-step of steering file evolution
\* No assign / deassign button
\* Current treatment model is assigend automatically when steering files are created (in a pre-step)
\* (?) How to handle assign of a second series ? With new generation of steering files
\* (?) How to handle change of an existing series? (Get current treatment dose?)
\* (x) %%red \_\_Rule out this option (for now). not easy for user to solve problems if there is a reason the treatment cannot be assigned\_\_
! Option 3: - Request information full treatment model from Patbase
\* FTPP workspace completely populated from information from Patbase
\* Information solely in Patbase : strip down FTPP model
\* expand patbase interface to support this functionality (services need to be defined)
\* (!) Tight coupling of the two systems
! Option 4: \_\_FTPP treatment definition approval and Patbase assignment are linked\_\_
\* Patbase assign when treatment definition is locked (approved?)
\* Patbase unassign when treatment definition is unlocked
!!Open Questions
\* What happens to pdf reports when an existing treatment is edited?
\* When should FTPP save the changes (on assign/on user action)?

**Seperate clean up of optimisation constraints from clean up of field**Priority : 6 ID: 20404 Status :Unrefined!!!Seperate clean up of optimisation constraints from clean up of field
\* Change behaviour so that a change in the target and/or field does not invalidate the planning work or setting constraints and priorities
\* Should allow a user to slightly change e.g. field direction and keep all the optimisation settings and simply re-optimise the plan

**Improve opening of patient**Priority : 6 ID: 20415 Status :Unrefined!!!Improve opening of patient
\* Streamline the opening of a patient to allow user to only load the data they actually want to work with
\* Select which planning data set(s) and which plan (s)
\* Also allow to not select any data , for the cases when the user wants to go straight to e.g. treatment definition.

**Coordinate system change should either be cleaned up or be separate for each series**Priority : 6 ID: 20434 Status :Unrefined!!!Coordinate system change should either be cleaned up or be separate for each series
\* potentially separate coordinate system transformations onto individual series
\* alternatively keep them on planning data set and make connection visible
\* discuss with power users what is more useful to them
\* offer possibility to copy coordinate system transformation from an existing series in same planning data set

**Prompt user with automatically assigned CT calibration curve**Priority : 6 ID: 20463 Status :Refined!1Prompt user with automatically assigned CT calibration curve
\* when a CT is imported , the user should be offered the most sensible, approved, calibration curve depending on the protocoll used in the CT acquisition
\* This would be the option set as default, but the user can choose to override this
\* The user should be able to assign any curve to any image set
\* The user must acknowledge with authentification that they are doing this

**Beam Data Generation Module**Priority : 6 ID: 20485 Status :Unrefined!1 Beam Data Generation Module
\* new model implemented from dosimetry project 2019
\* further changes to be defined
\\
!2 Notes
\* flexible beam data generation codes
\* TPS calibration based on dose area product per MU
\* change input to TPS file
!2 Integrated beam data generation module
\* Generation of depth dose curves
\* Receive measured depth dose curves DDC normalized to Dose-Area-Product per MU. [[ Gy cm2 / MU]
\* Generate and export Beam data for FTPP / G2.
!3 Requirements
\* must handle arbitrary energies e.g. every 10 MeV
\* must handle discontinous energies and unevenly spaced energies
\* must handle variations in resolution along depth dose curve
\* must be able to perform a spline interpolation
\* must be able to interpolate between energies
!3 Preparatory steps
\* mock [[ Gy/MU ] curves using SFGen conversion factor, use [[ Gy/MU ] curves in setup
\* change Optimization and dose display classes for absolute dose
\* if possible, mock new beam phase space representation (beamline, nozzle, absorber) and set in setup
\* Change dose/dij calculation classes to handle new phasespace model
!3 Questions
\* How to handle dose color maps?
\* Absolute dose in [[Gy], [[Gy RBE] or both options
Note:
Further information needed.

**Prepare Verification with shifted Airgap**Priority : 6 ID: 20502 Status :Unrefined!!!Prepare Verification with shifted Airgap
!2 Procedure
\* For a step by step description see the attached file

**Verification results table**Priority : 6 ID: 20508 Status :Refined!1 Verification results table
\* FTPP will provide a table with a row entry per field.
\* The columns will be used to enter the result parameters.
\* The numbers or backgrounds should change colour when the results are out of tolerance.
\* Specific tolerances are listed below in the tolerances section.
\* The columns are "U Shift ( mm ) ", "T Shift (mm)", "Gamma result 3mm, 3% (%)", "Best Boosting Factor ", "Comment"
\* The user enters the values in the table by hand for now and can save the values.
[!VerificationTable.png]
!2 Tolerances
|| Value || Tolerance Level 1 (Yellow) || Tolerance Level 2 (red)
|Gamma result | none | <90.0%
| Best Boosting Factor | +/- 1.02 | > abs(1.02)
\* Tolerances should be configurable for easy changes. In a first release potentially by a developer, eventually in an [ admin workspace | TASK:20361].

**IEC 62083 Compliance**Priority : 6 ID: 20669 Status :Unrefined!1IEC 62083 Compliance
!2 Accompanying documents
\* Technical document
\* Instructions for use
!2 Genereal requirments for operational safety
\* distances on in cms or mms
\* angles always degrees
\* radiation dose in SI, always labelled
\* Display of time and date
\* Login for CPT only
\* Roles and permissions for differnt operations
\* copy protection
\* virus protection
\* Data entry limits everywhere
\* correctness of data transfer
\* coordinate systems and sclaes according to IEC 61217
\* saving and archiving data
!2 Equipment modelling
!3 Describe equipment model
\* radiation quality
\* nominaal energy
\* absorbed dose profiles (applicable to us?)
\* depth dose curves
\\
\* available ranges of beam limiting devices, gantry angles , geometric factors etc.
!3 Brachytherapy
\* not applicable for us
!3 Dosimetric information
!3 Equipment model acceptance
!3 Equipment model deletion
!2 Anatomy modelling
!3 Data acquisition
\* import checks which could be performed
!3 Coordinate systems and scales
\* Follow convention ICRU 42
\* illustration of coordinate system in instructions for use manual
\* dimensions , coordinates, left right
!3 Contouring regions of interest
!3 Patient anatomy model acceptance
!3 patient anatomy model deletion
!2 Treatment planning
!3 General requirements
!3 Treatment planning preparation
!3 Treatment plan identification
!3 Treatment plan deletion
!3 Electronic use
\* login signature -- described in instructions for use
!2 Absorbed dose distribution calculation
!3 Algorithms used
!3 accuracy of algorithms
!2 Treatment plan reporting
!3 incomplete treatment plan report
!3 information on the treatment plan report
!3 Transmitted treatment plan information
!2 General Hardware diagnostics
\* start up checks
!2 Data and code
\* hashchecks
!2 Human errors in software design
\* IEC 62304 , risk analysis
\* means to report errors
!2 Change in software versions
\* how to install in instructions for use
!2 Use errors
\*Comply IEC 62366

**"Customer" Acceptance Tests**Priority : 6 ID: 20680 Status :Unrefined!1 "Customer" Acceptance Tests
!2 Test of interfaces
!3 Velocity / Dicom
\* Import of CT data
\* Import of structures
\* Export DRR to Velocity
!3 User Space File system
\* Import from File system
\* Export to file system (verification dose distributions)
!3 FTPP internal file system
!3 SFGen
\* create steering file
\* boost steering file
!3 Patbase
\* Assign treatment
\* Get current dose
\* Receive taught files
!3 Aria
\* Find created patient
!2 Printing
!3 Report printing
\* Print plan report
\* Print treatment report
\* Print physics report
\* Print info file
!2 Test procedures

**Block progress of application when an automatic client is coming**Priority : 6 ID: 20783 Status :Refined!1Block progress of application when an automatic client is coming
!2 Current Status
\* The application opens and can be operated quite far into the workflow even though an automatic client update is in progress
\* The user can even go as far as to open and potentially modify a patient with the old client and cause problems
!2 Desired change
\* Modify so that an update is found as soon as possible
\* So that the user is blocked from opening a patient while an update is not completed
\* Also block progress in a read only mode.
!2 Acceptance Criteria
\* Information that an update is pending as soon as possible (progress bar)
\* User cannot open a patient in any mode when an update is pending

**Monitor performance times of tasks**Priority : 6 ID: 20792 Status :Unrefined!1Monitor performance times of tasks
\* new structure dialog is too slow

**Improvements to Physics Plan Report**Priority : 6 ID: 20900 Status :Refined!1Improvements to Clinical/Physics Plan Report
\* The paragraph about DRRs should be moved to the physics plan report
\* Add an information box if the fields do not all have the same field centres : "Caution: Field centres are not the same throughout plan".
\* Add checks on minimum and maximum airgap values
\* Add an Information Box: with a table . One column for field name, one column for airgap value in cm
\* a row entry for each field with an airgap larger than 20cm
\* a row entry for each with an airgap less than 7cm
\* make the values 7 and 20 easily changeable for now
\* These values will one day be controlled through the "RT\_Admin" workspace
\* Add the teaching summary to the pdf report
\* List the Hounsfield unit overrides with the name of the structure and hounsfield unit override value
!2 Not needed
\* Verification point and radiobiological path length are not needed in any PDF report

**Configuration of which algorithms are defaults**Priority : 6 ID: 20914 Status :Unrefined!1Configuration of which algorithms are defaults
\* configure which algortihms should be default
\* potentially user specific, role-specfic or deployment specific

**Receive patient category automatically from Aria**Priority : 6 ID: 20965 Status :Unrefined!1Receive patient category automatically from Aria
\* requires further investigation, clarification with power users.
\* do they want diagnoses or just categories.
\* is it possible to solve this with currently available HL7 interfaces
!2 Useful links
hier sind alle dokumente zu Hl7 schnittstellen abgelegt:
[DIR:255143]
\\
in diesen dokumenten sind die 'supported events' von Aria aufgelistet..
\\
[CB:/displayDocument/100021342-02+IEM+Scheduling+Interface+Guide.pdf?doc\_id=255146]
\\
[CB:/displayDocument/IEM+Demographics+%28ADT%29+Interface+Guide+V13.pdf?doc\_id=279133]

**Allow client side configuration of dicom node**Priority : 6 ID: 21009 Status :Unrefined!1Allow client side configuration of dicom node

**User interface to switch Dicom Pacs destination and source**Priority : 6 ID: 21010 Status :Unrefined!1User interface to switch Dicom Pacs destination and source

**Patient export . transfer with full data for debugging**Priority : 6 ID: 21047 Status :Unrefined!1Patient export . transfer with full data for debugging

**Show completed steps visually in plan delivery preapration**Priority : 6 ID: 21051 Status :Unrefined!1Show completed steps visually in plan delivery preapration

**Improve gamma calculation UI**Priority : 6 ID: 21062 Status :Unrefined!1 Improve gamma calculation UI
\* Improve gamma calculation UI
\* Handle gamma distribution storage
\* Set correctly label colorbar

**Implement 'Center on structure' action**Priority : 6 ID: 21103 Status :Refined!1Implement 'Center on structure' action
\* add a option to jump to the centre coordinate of a structure in all three views.
\* right click on structure > "Go to Center"
\* all (typically three) active slice views jump to having their cross hairs at the centre of the view

**Patient copy action into other system**Priority : 6 ID: 21173 Status :UnrefinedPatient copy action into other system

**Patient move to alterantive FTPP sytem eg. reserarch**Priority : 6 ID: 21174 Status :UnrefinedPatient move to alterantive FTPP sytem eg. reserarch

**Patient anonymization**Priority : 6 ID: 21175 Status :UnrefinedPatient anonymization

**Field Specific PTV**Priority : 6 ID: 21176 Status :UnrefinedField Specific PTV

**Airgap checks**Priority : 6 ID: 21178 Status :Unrefined!1 Airgap checks
\* Different for preabsorber , mixed and no preabsorber
\* If preabsorber or mixed, warning if airgap is less than 5cm or greater than 20 cm.
\* If no preabsorber, warning if airgap less than 5cm OR Nozzle extension larger than YYcm.

**Clinical Commissioning (with planning/support)**Priority : 5 ID: 19297 Status :Unrefined!!!Clinical Commissioning (with planning/support)
\* Evaluate commissioning tasks
\* Begin commisioning documentation
\* Which documents are needed?

**Define Commissioning Tests with beam**Priority : 5 ID: 19317 Status :UnrefinedDefine Commissioning Tests with beam

**User Documentation / SOPs**Priority : 5 ID: 19318 Status :UnrefinedUser Documentation / SOPs
\* begin documentation in repository
\* user manual for whole tool
\* define structure of document
\* tex/pdf document

**Gy RBE vs Gy for dose display**Priority : 5 ID: 19598 Status :Unrefined!!!Gy RBE vs Gy for dose display
\*

**Dose profiles to also use absolute values**Priority : 5 ID: 19699 Status :UnrefinedDose profiles to also use absolute values

**Add treating physician and assigned planner(s) to "Load Patient" perspective**Priority : 5 ID: 19848 Status :Unrefined!!!Add treating physician and assigned planner(s) to "Load Patient" perspective
\* add a column to patient overview which contains the assigned treating physician
\* add a column to patient overview which contains the assigned planners

**User Manual**Priority : 5 ID: 20223 Status :Unrefined!!!User Manual
\* parent PBI for individual perspectives to produce a user manual

**Dicom import should show reply if no data is found with this id**Priority : 5 ID: 21008 Status :Unrefined!1Dicom import should show reply if no data is found with this id

**Timer notification on save**Priority : 5 ID: 21048 Status :Unrefined!1Timer notification on save
\* change appearnce of save mechanism after certain time if changes exist
\* maybe prompt user to save

**Check that units are explcit and consistent**Priority : 5 ID: 21287 Status :Unrefined!1Check that units are explcit and consistent
\* Check units are consistent, explicit and cannot be misinterpreted
\* Linear units
\* Radiation units
\* Weight
\* Date , time
\* Housnfield units

**check data entry limits and only valid parameters can be entered**Priority : 5 ID: 21289 Status :Unrefined!1check data entry limits and that only valid parameters can be entered

**Export of dicom data**Priority : 5 ID: 21290 Status :UnrefinedExport of dicom data

**Generation of box plans and box structures**Priority : 5 ID: 21291 Status :Unrefined!1 Generation of box plans and box structures
\* geometric shapes , boxes, spheres , ellipses etc.

**PLan robustness evaluation**Priority : 5 ID: 21292 Status :Unrefined!1 Plan robustness evaluation

**Import and conversion of existing psiplan data**Priority : 5 ID: 21338 Status :Unrefined!1 Import and conversion of existing psiplan data

**Change dose calculation to XYZ**Priority : 5 ID: 21347 Status :Unrefined!1 Change dose calculation to XYZ
\* move dose calculation into XYZ .
\* optimisation in XYZ as well.
\* display will require interpolation
\* Should DVHs be calculated from interpolated dose or voxel dose ?
\* STU distributions for verification