
Ergebnisse

Umfrage 552262

Anzahl der Datensätze in dieser Abfrage:

36

Gesamtzahl der Datensätze dieser Umfrage:

36

Anteil in Prozent:

100.00%

Zusammenfassung für P1(P1SQ001)[A consensus-based radiomics workflow should contain this phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	0	0.00%
Neither agree nor disagree (L3)	1	2.78%
Agree (L4)	13	36.11%
Strongly agree (L5)	22	61.11%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P1(P1SQ002)[The definition of this phase is correct.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	0	0.00%
Agree (L4)	19	52.78%
Strongly agree (L5)	15	41.67%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P1(P1SQ003)[The German name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	1	2.78%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	1	2.78%
Agree (L4)	17	47.22%
Strongly agree (L5)	13	36.11%
Keine Antwort	1	2.78%
Nicht gezeigt	0	0.00%

Zusammenfassung für P1(P1SQ004)[The English name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	1	2.78%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	0	0.00%
Agree (L4)	16	44.44%
Strongly agree (L5)	16	44.44%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P1C

Do you have any comments on this phase? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	12	33.33%
Keine Antwort	24	66.67%
Nicht gezeigt	0	0.00%

ID	Antwort
13	Viele kann man es eher Definition of research question/ hypothesis nennen ?
23	Man könnte diese Phase in zwei getrennte Phasen aufteilen: 1.) Auswahl der untersuchten Objekte (Patienten/Untersuchungsgebiet) und 2.) Auswahl der Eigenschaften, die untersucht werden sollen (Untersuchungsmethoden)
24	One smaller point: Segmentation is not necessarily a goal, so I would rather say "to be further analyzed"
32	Not sure how this can be done "retrospectively" (or do you try to distinguish prospective and retrospective cohorts)?
43	"Data selection" sounds like selection of existing data to me. Why not "data definition", if "definition" is the term used in the definition?

This phase should also contain a planning of the data analysis that will be performed on the data. This plan should be made before the data are actually available.

	There are several typos in the definition.
46	General comment: Along the discussion during our first meeting: do we want to stick with radiomics or make it broader in terms of data (raw data) and methodology (ML/DL)?
53	"Definition / Festlegung" in der Beschreibung klingt deutlich stärker als "selection / -auswahl" . Entweder das eine oder das andere müsste m.E. angepasst werden.
55	Die Definition ist unvollständig. In Radiomics-Studien sind immer neben den Bilddaten auch andere Daten involviert. Diese müssen ebenfalls identifiziert und konsistent und möglichst reproduzierbar bereitgestellt werden.
	Zudem ist die Datenauswahl nicht (!) der erste Schritt in einer Radiomics-Studie, sondern die Definition des klinischen Problems (klinische Fragestellung), das adressiert werden soll. Mitunter ist es Teil der Radiomics-Analysen, etwa unterschiedliche Bildgebungs-Datensätze für die gleiche Fragestellung zu vergleichen.
62	From an epidemiological perspective, "data" denotes something that can be analyzed using statistical models. "Selection" implies that there is existing data where now a sub-set can be selected from. I think this phase should have a more precise name, e.g. "image data definition"
64	Ein wichtiger Aspekt der Datenselektion ist durch die wissenschaftliche Fragestellung vorgegeben. Dies sollte auf jeden Fall diskutiert werden. Einen getrennten Punkt hierfür ist meines Erachtens dafür jedoch nicht notwendig.
68	Datenauswahl? Datenerfassung = Datenakquisition?
69	"...as well as the image structures to be segmented" => Theoretically, radiomics analyses can also be performed without (automated) segmentation, e.g. on manually selected ROIs. In this regard, the definition might be too specific.

Zusammenfassung für P2(P2SQ001)[A consensus-based radiomics workflow should contain this phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	0	0.00%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	11	30.56%
Strongly agree (L5)	23	63.89%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P2(P2SQ002)[The definition of this phase is correct.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	0	0.00%
Agree (L4)	15	41.67%
Strongly agree (L5)	19	52.78%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P2(P2SQ003)[The German name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	1	2.78%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	12	33.33%
Strongly agree (L5)	20	55.56%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P2(P2SQ004)[The English name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	1	2.78%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	11	30.56%
Strongly agree (L5)	21	58.33%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P2C

Do you have any comments on this phase? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	9	25.00%
Keine Antwort	27	75.00%
Nicht gezeigt	0	0.00%

ID	Antwort
24	"data acquisition" can be mistaken for the actual physical process of measurement. I would make clear that it is more about "data collection" perhaps?
32	Closely related to "data selection" (in particular for retrospective studies). Meta data acquisition (and clinical/lab data) is not covered yet in the aspects.
43	The definition is self-referencing.
45	the order is incorrect for retrospective studies, they first acquire an then select ;)
52	I am not completely sure if data acquisition is the right term. From my understanding, this term defines everything necessary for the recording of the images, i.e. the image taking. It would not include retrospective collections of the data. If this is covered in the point data management, it is ok. Nevertheless, reporting parameters from image accquisition is still important.
53	MEin Bauchgefühl hätte jetzt hier eher die eigentlich Bildaufnahme vermutet, nicht "alle Aktivitäten", was eher unspezifisch ist, also z.B. auch Einholen von Consents, Ethikvotum etc. umfassen könnte.
62	See comment before - i think it needs to be made clearer that images are acquired. General "Data acquisition" could also relate to the acquisition of radiomics features later on, therefore the term could be confusing. Maybe "Image data acquisition"? For me, "image data acquisition" would also imply acquisition of meta-data related to the images.
64	Hier finde ich gut dass der Begriff der Datenakquisition so allgemein gehalten ist, da die Metadaten häufig ein essentieller Bestandteil sind.
70	In the German explanation, I would call it "Zusammenfassung aller Aktivitäten,..."

Zusammenfassung für P3(P3SQ001)[A consensus-based radiomics workflow should contain this phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	5	13.89%
Agree (L4)	10	27.78%
Strongly agree (L5)	18	50.00%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P3(P3SQ002)[The definition of this phase is correct.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	5	13.89%
Agree (L4)	16	44.44%
Strongly agree (L5)	14	38.89%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P3(P3SQ003)[The German name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	1	2.78%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	4	11.11%
Agree (L4)	15	41.67%
Strongly agree (L5)	15	41.67%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P3(P3SQ004)[The English name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	1	2.78%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	5	13.89%
Agree (L4)	16	44.44%
Strongly agree (L5)	13	36.11%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P3C

Do you have any comments on this phase? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	10	27.78%
Keine Antwort	26	72.22%
Nicht gezeigt	0	0.00%

ID	Antwort
20	I think data management is a necessary part of a radiomics project but is not part of the actual workflow since it has no specific point in time but is more a durative/ongoing part of the project
24	"data management" is too broad of a term in my view. "Data structuring" might be an alternative
30	The definition sounds a little bit too general and it is not immediately clear, what it contains concretely
32	Could be an aspect of "data acquisition", in particular if the latter also comprises non-imaging data (such as outcome data or genomics,...)
34	Das Zusammentragen der Studiendaten zählt aus meiner Sicht zur Phase 2 (Data acquisition). Die Phase 3 ist aus meiner Sicht eher ein "Data Preprocessing", weil Daten für die spätere Prozessierung vorbereitet werden.
43	The distinction of "acquisition" (previous phase) and "compiling" (this phase) is not clear to me. I am not sure what is exactly meant with this phase. For me, "data management" rather sounds like storing data in a structured way, making it available to the project team, checking consistency and completeness, handling inconsistency and incompleteness etc.
52	The description sound to me more like "Data collection and preprocessing" while "Data managment" would sound more like Meta-data handling, Consistency management etc...
59	2Daten zusammentragen“ kann missverständlich sein im Vergleich zur Datenaquisition, vielleicht passt Datenaufbereitung besser?
62	See comment before - should be clearer that this still pertains to imaging data, as opposed to data stemming from the extracted radiomics features. Moreover, I think this is the phase where extra attention needs to be paid to ID numbers for data transfer and anonymization of IDs? This should be emphasized in the definition.
70	The naming of this phase could also be something like "Data preparation" ("Datenvorbereitung") or the like.

Zusammenfassung für P4(P4SQ001)[A consensus-based radiomics workflow should contain this phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	1	2.78%
Agree (L4)	7	19.44%
Strongly agree (L5)	27	75.00%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P4(P4SQ002)[The definition of this phase is correct.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	1	2.78%
Agree (L4)	15	41.67%
Strongly agree (L5)	17	47.22%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P4(P4SQ003)[The German name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	15	41.67%
Strongly agree (L5)	18	50.00%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P4(P4SQ004)[The English name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	14	38.89%
Strongly agree (L5)	18	50.00%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P4C

Do you have any comments on this phase? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	10	27.78%
Keine Antwort	26	72.22%
Nicht gezeigt	0	0.00%

ID	Antwort
5	Für Deep Learning basierte Radiomics ist die Segmentierung nicht zwingend notwendig, vielleicht wäre ein neutralerer Name besser. Vielleicht etwas wie "ROI selection" was entweder Segmentierung sein könnte oder nur die Auswahl eines Bildausschnittes, welcher dann als Input für das Netzwerk verwendet wird.
20	Not every task is segmentation-based on therefore the definition should be broader
23	Den Begriff "image processing/Bildverarbeitung" finde ich zu allgemein. Der Begriff umfasst nicht nur die Vorbereitung zur Merkmalsextraktion, sondern auch die weiteren Schritte. Vorschlag: "anatomical assignment and segmentation" bzw. "anatomische Zuordnung und Segmentierung"
24	I would rather use the term "pre-processing"; data processing is done in almost all steps.
30	Probably also Image "preprocessing" is included here and could be included into the title or descriptions. Especially in the german title it could be helpful
32	Potential overlap with feature extraction (e.g. preprocessing / normalization)
34	Image preprocessing should be a separate phase or included in the previous phase.
43	The definition is self-referencing. A definition of the form "This phase contains all activities necessary for X" does not explain what X is. (This comment applies to several phases.)
	I would suggest to reduce this phase to "segmentation" and move "image processing" to the feature extraction phase. Segmentation is a manual or at least supervised process, whereas feature extraction, including any processing of images before feature extraction, is an automatic process.
53	Processing -> Pre-processing ? Image processing / Bildverarbeitung ist ja viel breiter, also auch die Merkmalsextraktion etc.
69	- "to create segmentations" => "to create/derive ROI segmentations"? Maybe to better reflect / imply a more general notion of determining ROIs for subsequent feature extraction and analysis - the name "image processing and segmentation" sounds somewhat misleading, since segmentation also is a specific kind of image processing

Zusammenfassung für P5(P5SQ001)[A consensus-based radiomics workflow should contain this phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	0	0.00%
Neither agree nor disagree (L3)	1	2.78%
Agree (L4)	9	25.00%
Strongly agree (L5)	25	69.44%
Keine Antwort	1	2.78%
Nicht gezeigt	0	0.00%

Zusammenfassung für P5(P5SQ002)[The definition of this phase is correct.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	1	2.78%
Agree (L4)	13	36.11%
Strongly agree (L5)	17	47.22%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P5(P5SQ003)[The German name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	1	2.78%
Agree (L4)	13	36.11%
Strongly agree (L5)	19	52.78%
Keine Antwort	1	2.78%
Nicht gezeigt	0	0.00%

Zusammenfassung für P5(P5SQ004)[The English name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	0	0.00%
Agree (L4)	14	38.89%
Strongly agree (L5)	19	52.78%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P5C

Do you have any comments on this phase? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	10	27.78%
Keine Antwort	26	72.22%
Nicht gezeigt	0	0.00%

ID	Antwort
5	Ohne den Zusatz "mithilfe mathematischer Formeln, nötig/relevant sind" könnte diese Phase auch auf neuronale Netze zutreffen.
14	Explicit feature extraction is not always necessary - see deep learning.
24	"using mathematical formulas" sounds a bit too concrete to me. How about "using an algorithmic process"?
32	Two aspects I think deserve mention/attention: Features could also be qualitatively (see e.g. VASARI features), and the images don't necessarily need to be segmented (e.g. DL algorithms looking at entire images).
43	Feature extraction (at least as defined here, "using mathematical formulas") is not necessary in a deep-learning-based radiomics workflow. However, I would add "image processing" to this phase and that is always required (at least should always be considered).
44	would use "feature selection" also in german
48	The appendix mixes the terms ROI and VOI. We should either use both at all times, or define once that e.g. VOI means both 2D and 3D segmentations.
55	I disagree since nowadays, most new Radiomics projects would not use "mathematical formulas" to extract features, but rather implicit or self-learning approaches such as CNNs that can be optimized for new problems and datasets without changing the "formula" (which is the network architecture and loss-function definition, optimizer, etc. here). Also, for what most researchers would call 'classical Radiomics' with explicit (human defined) features, it is not the mathematical formula which extracts them. The mathematical formula must be embodied in an algorithm or software module, which then can serve as feature extraction unit. This embodiment is often non-trivial due to discretization artifacts or additional parameters or design choices needed in addition to the mathematical formula. In summary, I propose to replace "mathematical formula" by "properly chosen or trained algorithms".
67	include necessary/relevant information and data procession for implementation in AI
68	Finde "Feature" zu eng gefasst, warum nicht ganz bei quant. information bleiben? -> "Information & Feature Extraction"

Zusammenfassung für P6(P6SQ001)[A consensus-based radiomics workflow should contain this phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	6	16.67%
Agree (L4)	13	36.11%
Strongly agree (L5)	13	36.11%
Keine Antwort	1	2.78%
Nicht gezeigt	0	0.00%

Zusammenfassung für P6(P6SQ002)[The definition of this phase is correct.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	4	11.11%
Agree (L4)	16	44.44%
Strongly agree (L5)	14	38.89%
Keine Antwort	1	2.78%
Nicht gezeigt	0	0.00%

Zusammenfassung für P6(P6SQ003)[The German name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	3	8.33%
Agree (L4)	15	41.67%
Strongly agree (L5)	14	38.89%
Keine Antwort	1	2.78%
Nicht gezeigt	0	0.00%

Zusammenfassung für P6(P6SQ004)[The English name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	3	8.33%
Agree (L4)	16	44.44%
Strongly agree (L5)	13	36.11%
Keine Antwort	1	2.78%
Nicht gezeigt	0	0.00%

Zusammenfassung für P6C

Do you have any comments on this phase? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	16	44.44%
Keine Antwort	20	55.56%
Nicht gezeigt	0	0.00%

ID	Antwort
14	Not always is such data available and not always is a reasonable integration possible.
23	Diese Phase ist sicher sinnvoll, aber eigentlich optional - man kann auch unabhängig von weiteren Daten die Merkmale einfach erheben und ausgeben.
24	"holistic" is a rather ambitious term. It might be weakened by saying "more holistic".
25	Depends on whether other data are available. Thus, should be optional.
26	Merkmalen -> Merkmale
30	For my taste that could also be included in the "Modeling" part especially since it is not really specified, what "integrated" is supposed to mean
32	I would see this combined with "data management".
43	This phase is not necessary because radiomics can be done without clinical or genetic data. Also, I am not sure if "multimodal" is the best term, it sounds like multimodal imaging to me. I would prefer "integration of image and non-image data".
46	Multimodality used to define different imaging modalities (e.g. PET and MRI). Maybe better to speak of "multiple" or "meta"? And it comes back to the initial definition in "data selection" where data refers to imaging data only.
52	This is an optional phase of radiomics studies. It might also contain parts that are more complex (data cleaning etc...) as other domains might require additional processing steps which are not mentioned yet.
53	Integration / Zusammenführung könnte spezifischer sein, also ob die rein technische Zusammenführung, d.h. Matching von Cases etc. gemeint ist oder bereits erste Statistik, Gruppenbildung auf Basis nicht-radiomicscher Merkmale etc.
55	See my comment above for the first stage "data selection". Additional comments: <ul style="list-style-type: none"> - Radiomics _can_ be combined with other data such as clinical or genetic data, but does not _need_ to be in all cases. So this is _optional_. - But a Radiomics project typically needs clinical endpoints or surrogate parameters that shall be explained by the imaging data (Radiomics features etc.). <p>It is important for the design of a Radiomics project to discriminate the _measurable data_ as a basis for prediction (always imaging, optionally other data, cf. above), and the _target clinical parameters_ to be predicted. This needs to be clarified when talking about multimodal integration.</p> <p>Moreover, "multimodal" is not fully correct, rather "multidisciplinary" should be used here. "Modalities" is commonly used as a term for the different imaging modalities (MRI, CT, ultrasound, etc.) within medical imaging or Radiology. But genetics and clinical data are commonly not referred to as "modalities".</p>
62	I think an important step is missing here. Before you throw the radiomics features together with clinical data, you should first post-process them and do a quality check on internal validity.
66	Just adding histology as an important example
67	add further processing for AI
70	For me, the names of this phase (in either German or English) suggest some kind of analysis step in it, which is not what the definition of this phase says. If it is (according to the definition) only again a kind of data management or data preparation, without any further processing or statistics, I would not call this phase "integration".

Zusammenfassung für P7(P7SQ001)[A consensus-based radiomics workflow should contain this phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	1	2.78%
Agree (L4)	7	19.44%
Strongly agree (L5)	27	75.00%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P7(P7SQ002)[The definition of this phase is correct.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	0	0.00%
Agree (L4)	19	52.78%
Strongly agree (L5)	14	38.89%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P7(P7SQ003)[The German name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	1	2.78%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	3	8.33%
Agree (L4)	15	41.67%
Strongly agree (L5)	15	41.67%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P7(P7SQ004)[The English name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	16	44.44%
Strongly agree (L5)	16	44.44%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P7C

Do you have any comments on this phase? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	10	27.78%
Keine Antwort	26	72.22%
Nicht gezeigt	0	0.00%

ID	Antwort
14	Modeling in the general sense means to generate a "mathematical" model of an entity. This is not the case here, we rather predict or compile decision values, which can be a predictive score or simply a classification.
23	Auch hier: optionale Phase: Die Phase ist sehr sinnvoll, aber man kann auch modell-unabhängig Merkmale erheben und ausgeben.
43	I think this phase is much more complex than the definition makes it sound. Validation is not mentioned here (not in the next phase either) but should definitely be part of a radiomics workflow. Also, "a model that allows prediction" assumes that it is always possible to find such a model. I would rather see this as an analysis, that may or may not result in a good predictive model, but should always result in a validation outcome, which may take very different shapes. The planning of the analysis performed here should be done in an earlier phase before the data are available. That phase is missing completely (see Data selection).
48	Subsection Feature Selection: Two publications have also investigated the repeatability and robustness of radiomic features by either image perturbations or interleaved image reconstruction (PET). These papers might also be included here: Zwanenburg A, Leger S, Agolli L, et al. Assessing robustness of radiomic features by image perturbation. <i>Sci Rep.</i> 2019;9(1):614. Published 2019 Jan 24. doi:10.1038/s41598-018-36938-4; Gutsche R, Scheins J, Kocher M, et al. Evaluation of FET PET Radiomics Feature Repeatability in Glioma Patients. <i>Cancers (Basel).</i> 2021;13(4):647. Published 2021 Feb 5. doi:10.3390/cancers13040647 Subsection Classification: I miss a subsection referring to model training (training and validation (cross-validation, holdout, etc.)). For my understanding, this should be inserted prior to the subsection Classification. Subsection Validation: Since the terms training, validation and testing are often mixed and misunderstood, we should think about including a clear definition of thereof. From the description of the subsection Validation (....Generalisierbarkeit, Genauigkeit,) I would call this Model Testing rather than Validation. For me, validation happens during the process of model training (training and validation). Alternatively, the first validation step during model training could also be called internal validation and the second step external validation according to Lambin et al. 2017.
52	This might be more than one phase, or might come before Multimodal data, depending on the integration approach.
62	Name of the phase is too generic. There's also "modelling" in image segmentation (e.g. in atlas based methods) and there's also "modelling" in radiomics feature extraction. Maybe "statistical modelling"? Because "prediction" seems to be used here in the statistical, not epidemiological sense.
64	Klinische Merkmale/clinical features habe ich als Begriffe eher selten gehört. Da würde ich eher den Begriff Klinische Parameter vorschlagen.
68	Ich würde es eher als "Statistical Analysis" bezeichnen, won "Modeling" ein Teil ist; ja, bei RADIOMICS sind dies meist statistical Modelle, aber bin ein Freund dies auch manchmal einfach zu betrachten mein Vorschlag hier an der Definition nochmal mit den Epidemiologen arbeiten
69	maybe: "...allows prediction in terms of the defined prediction goal." => "allows prediction of the defined clinical target variables"
70	Could also be called "model-based prediction" or "model-based analysis"

Zusammenfassung für P8(P8SQ001)[A consensus-based radiomics workflow should contain this phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	0	0.00%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	11	30.56%
Strongly agree (L5)	23	63.89%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P8(P8SQ002)[The definition of this phase is correct.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	15	41.67%
Strongly agree (L5)	17	47.22%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P8(P8SQ003)[The German name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	5	13.89%
Agree (L4)	13	36.11%
Strongly agree (L5)	16	44.44%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P8(P8SQ004)[The English name of this phase expresses what is defined.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	1	2.78%
Agree (L4)	16	44.44%
Strongly agree (L5)	17	47.22%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für P8C

Do you have any comments on this phase? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	9	25.00%
Keine Antwort	27	75.00%
Nicht gezeigt	0	0.00%

ID	Antwort
23	Der Report muss nicht unbedingt in Form einer wissenschaftlichen Publikation ausgegeben werden. Ich würde vorschlagen, den Satzteil "...als Teil einer wissenschaftlichen Publikation" einfach wegzulassen.
26	Provenienz Metadaten -> Datenprovenienzen
43	Again, I would make it much clearer that validation results are needed here (in the case that a predictive model was constructed).
45	aren't we missing an "analysis" or "benchmark" step that includes selection and application of metrics?
46	need to include M&M in report (study type, study date, contributing institutions, in-/exclusion, etc ...)
48	I would suggest to slightly rephrase the English definition: Report of the results including all necessary metadata (data provenance, data source.....).... I would suggest to use a different German name: Bericht or Dokumentation I would suggest to slightly rephrase the German definition: Bericht der Ergebnisse inklusiver aller notwendigen Metadaten (Datenprovenienz, Datenquelle,)....
55	"Provenienz Metadaten" is ungebräuchlich und grammatisch falsch.
62	I'm confused about the definition. Of course all steps of the radiomics workflow should be documented/reported, but shouldn't this be independent of a scientific publication? If publication is part of the definition, why not call this phase "publication"? For simple documentation/reporting, this step comes far too late.
70	Regarding the previous step and this one: If the previous one is called "modeling", one might think that some step in between these two last steps here is missing as no output is generated (at least not based on the definition given for the previous phase).

Zusammenfassung für P1A1(P1A1SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	4	11.11%
Agree (L4)	17	47.22%
Strongly agree (L5)	12	33.33%
Keine Antwort	1	2.78%
Nicht gezeigt	0	0.00%

Zusammenfassung für P1A1C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	12	33.33%
Keine Antwort	24	66.67%
Nicht gezeigt	0	0.00%

ID	Antwort
23	Das "imaging protocol" ist eigentlich dafür verantwortlich, welche Gewebeeigenschaften überhaupt erfasst werden können (neben der räumlichen Auflösung) . Eventuell könnte dieser Teil auch "exploited tissue properties and imaging protocol" genannt werden
24	This depends on the retrospective or prospective nature of the study. In prospective studies this is of course part of the data selection and data collection process.
25	Strong standardization of imaging protocols of course is good for training of a model, but not so good for generalizability of that model. Sometimes, data from clinical routine without any standardization lead to better generalizability of trained models than data from strongly controlled clinical studies. Thus, not sure if this should be a recommendation.
30	Is the imaging protocol really having an impact on class imbalance? Isn't that usually more about the ratio of healthy/unhealthy samples etc? Also it could be better to try and achieve reproducibility by preprocessing since in practice ensuring standardized imaging protocols may be hard
43	I don't understand how class imbalances are related to the imaging protocol. Isn't that rather influenced by the choice of subjects?
44	how are retrospective analysis handled with already acquired heterogenous imaging data?
52	Not always a standardization.
53	Intuitiv: teil der acquisition
55	Radiomics Analysen: Bindestrich fehlt.
	Ein Kernpunkt bei der Definition des Bildgebungsprotokolls ist es, eine Balance zwischen _prädiktivem Wert_ und _Machbarkeit_ anzustreben. Dies sollte beschrieben werden. Etwa in engl.: "Define the data and modalities, protocols and/or sequences, which will be sufficient for the intended radiomics approach and at the same time feasible on a larger scale."
64	Vielelleicht sollte der Begriff der Klassen-Imbalancen im Zusammenhang mit der Auswahl des Bildgebungsprotokolls genauer erklärt werden.
66	Especially for MRI, even though a standardized imaging protocol is used, reproducibility is not ensured. Maybe the description is a little bit misleading in this regard.
68	finde in der Definition und dem deutschen Namen kommt der Aspekt von "Choice" nicht ganz raus, es geht ja darum hier ein Wahl des Bildgebungs(protokols) zu wählen, was nicht zur reproducibility generiert, sondern auch eine maximale diskrimination hinsichtlich der Fragestellung erlaubt; die wahl der Bildgebung bedarf dann auch möglichst genauen definition und Standardisierung

Zusammenfassung für P1A2(P1A2SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	1	2.78%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	15	41.67%
Strongly agree (L5)	14	38.89%
Keine Antwort	3	8.33%
Nicht gezeigt	0	0.00%

Zusammenfassung für P1A2C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	8	22.22%
Keine Antwort	28	77.78%
Nicht gezeigt	0	0.00%

ID	Antwort
23	geht es immer um "prediction" oder auch um "diagnosis"?
26	Definition des Prädiktionsziels des Modells. (z.B. Stratifikation hinsichtlich progressionsfreien Überlebens). ('Punkt' fehlt ;-)
44	could consider "endpoint" as alternativ name
53	Disagree, but maybe just because I also disagreed with the naming of this phase.
55	needs to be part of the "data selection" top level definition. see my comment there.
62	I don't think this is an aspect of this phase. This is a step before the radiomics workflow even starts. At the very beginning, the study question, hypothesis and "prediction goal of the model" must be established. Then the radiomics workflow is started to answer the question/test the hypothesis/evaluate the prediction model.
64	Dies ist direkt mit der wissenschaftlichen Fragestellung verbunden. Möglicherweise lässt sich das in diesem Aspekt mit diskutieren?
68	Choice =/= Definition; siehe oben

Zusammenfassung für P1A3(P1A3SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	16	44.44%
Strongly agree (L5)	14	38.89%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P1A3C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	7	19.44%
Keine Antwort	29	80.56%
Nicht gezeigt	0	0.00%

ID	Antwort
23	evtl "body structures of interest" oder "body parts of interest"
44	could consider "classifier" as alternativ name
48	Also here, we should agree on either using both ROI and VOI or defining the term VOI to include/mean both ROI and VOI
55	both names (engl/dt) are singular (volume), but the descriptions are plural (structures). I propose to choose the optional singular(plural) form, like "volume(s)" in both cases.
62	I'm not a radiologist, so i cannot really answer that. Naively, I would have assumed that the details about segmentation would be established later, in the phase "segmentation".
66	Maybe one should add the registration tools, as patients move in between MRI sequences and matching DWI with morphology isn't always easy.
68	Choice =/= Definition; siehe oben

Zusammenfassung für P1AC(P1ACSQ0013)[All relevant aspects for this phase are represented in this workflow.]

Completeness of aspects in this phase Please indicate whether you agree or disagree that all relevant aspects are represented in this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	6	16.67%
Agree (L4)	19	52.78%
Strongly agree (L5)	6	16.67%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P1ACC

Do you have any comments on the completeness of aspects for this phase?

Antwort	Anzahl	Prozent
Antwort	7	19.44%
Keine Antwort	29	80.56%
Nicht gezeigt	0	0.00%

ID	Antwort
23	Wenn eine Kohorte untersucht wird, sind die Ein- und Ausschlusskriterien für die Teilnehmer sowie die Verteilung von Alter und Geschlecht nicht gut abgebildet.
30	I'm not sure if Data selection is the best word to summaries the subsection, one could also think about simply naming it "study design" or similar, since "choice of prediction target" does not really belong to data selection
43	I think this phase should also include - selection of features (we do not just use the full set of radiomic features on the VOIs, we may also have features like number of metastases in an organ, aggregated features of metastases per organ etc.) - selection of analysis strategy (training/test split, cross-validation, choice of feature selection method, choice of classifier, choice of performance metric etc.)
55	Definition of clinical value (motivation) and expected advantage. So define _why_ we are aiming at predicting the target variable. Including "what is the baseline? what do we know already about the clinical phenomenon? what is known about the respective physio-pathology and/or molecular biology?"
59	Abhängig von der Fragestellung muss auch das Patientenkollektiv definiert werden, krank, gesund, Risikogruppe etc.
66	I would add registration tools as described above, as patients move in between MRI sequences and matching DWI (or other sequences) with morphology isn't always easy.
69	- I would expect more of the radiomics study design to be performed in this phase, i.e. planning of stability analyses and the consequent additional measures to be taken, including at least definition of independent unseen validation cohorts from other clinics or from other reference time frames. Intuitively, I would also expect aspects like inter-rater annotations, phantom measurements and test-retest at least to be planned here, since they could also influence selection of data for the planned study.

Zusammenfassung für P2A1(P2A1SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	0	0.00%
Neither agree nor disagree (L3)	1	2.78%
Agree (L4)	16	44.44%
Strongly agree (L5)	17	47.22%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P2A1C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	6	16.67%
Keine Antwort	30	83.33%
Nicht gezeigt	0	0.00%

ID	Antwort
23	neben Aufnahmeparametern sollten auch auch das set-up der Untersuchung (Lagerung des Patienten, Verwendung von bestimmten Empfangspulen,...) eingeschlossen werden...
43	If this includes both prospective and retrospective acquisition (I would call the latter "collection", but I am not sure about the terminology), this should be stated explicitly. Otherwise collection of existing data is missing.
55	Grammatik dt.: "den" -> "die ... parameter."
59	Ggf. Alternativ Bilderstellung statt Aufnahme
64	Ein relevanter Anteil kann hier auch die Festlegung einer einheitlichen Benennung der Sequenzen/Rekonstruktionen sein, die während der Akquisition direkt in den Metadaten abgelegt werden. So ist in den folgenden Schritten eine effizientere Filtrierungen anhand der Tags möglich.
68	Würde im deutschen auch von "Akquisition" sprechen

Zusammenfassung für P2A2(P2A2SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	1	2.78%
Agree (L4)	21	58.33%
Strongly agree (L5)	11	30.56%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P2A2C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	7	19.44%
Keine Antwort	29	80.56%
Nicht gezeigt	0	0.00%

ID	Antwort
13	dann aber nur für prospektive Studien oder ?
25	Should not be part of every single radiomics study - e.g., due to radiation protection, this wouldn't be possible for patient CT data.
43	The "data selection" phase should specify whether and how the test-retest images are analyzed.
55	This is optional and should be marked as such.
64	Der Zeitabstand ist hier nur ein Parameter. Daher wäre hier mein Vorschlag den Punkt allgemeiner zu halten und den Nebensatz mit dem zeitlichen Abstand wegzulassen.
68	Test-ReTest ist häufig nen Aspekt hinsichtlich einer Veränderung über Zeit, aber bei der NAKO z.B. auch über Standorte hinweg; auch würde ich hier den Aspekt stärker rausarbeiten, dass selbst bei einem Zeitintervall, was sehr bis minimal gering wird, wir Variationen bekommen -> IntraScanner Variability
70	Might be desirable, but not necessarily standard for each protocol.

Zusammenfassung für P2A3(P2A31SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	0	0.00%
Neither agree nor disagree (L3)	4	11.11%
Agree (L4)	16	44.44%
Strongly agree (L5)	15	41.67%
Keine Antwort	1	2.78%
Nicht gezeigt	0	0.00%

Zusammenfassung für P2A3C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	3	8.33%
Keine Antwort	33	91.67%
Nicht gezeigt	0	0.00%

ID	Antwort
13	dann aber nur für prospektive Studien oder ?
43	The "data selection" phase should specify whether and how the phantom images are analyzed.
64	Insgesamt ist es natürlich sehr wünschenswert eine Vergleichbarkeit verschiedener Geräte anhand von Phantomstudien zu erreichen. Der Begriff der Inter-observer variability bei Segmentierungsmethoden ist mir im Zusammenhang mit Phantomstudien jedoch nicht ganz klar. Möglicherweise wäre das in der Publikation genauer zu erklären.

Zusammenfassung für P2A4(P2A4SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	4	11.11%
Agree (L4)	14	38.89%
Strongly agree (L5)	16	44.44%
Keine Antwort	1	2.78%
Nicht gezeigt	0	0.00%

Zusammenfassung für P2A4C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	6	16.67%
Keine Antwort	30	83.33%
Nicht gezeigt	0	0.00%

ID	Antwort
23	Vielleicht wäre "image formation" besser. Meist ist dieser Prozess in die "Aufnahmemethode bzw. das Set der Aufnahmeparameter integriert. Ich würde den Begriff "raw data" anstelle von "raw signal" vorschlagen.
30	I don't know if this is a necessary aspect since it is done in any case and it is not clear what the relation to radiomics should be. Of course one could try and check if different reconstruction algorithms have an influence of reproducibility etc. but this does not seem to be discussed here
32	This might also be an aspect in "image processing" (or even "feature extraction")
55	If Reconstruction shall be a separate aspect, then image acquisition shall be defined as acquiring the raw data.
64	Es ist sehr gut, dass das in dem Punkt Datenakquisition schon eingeschlossen ist, da retrospektiv die Rohdaten meistens schon gelöscht sind. Insbesondere auf herstellerunabhängige Rekonstruktionsalgorithmen könnte man hier eingehen.
69	- the definition can sound like using an optional reconstruction algorithm. Maybe the choice and number of included reconstruction algorithms is what is more relevant here

Zusammenfassung für P2AC(P2ACSQ001)[]

Completeness of aspects in this phase Please indicate whether you agree or disagree that all relevant aspects are represented in this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	3	8.33%
Agree (L4)	20	55.56%
Strongly agree (L5)	8	22.22%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P2ACC

Do you have any comments on the completeness of aspects for this phase?

Antwort	Anzahl	Prozent
Antwort	8	22.22%
Keine Antwort	28	77.78%
Nicht gezeigt	0	0.00%

ID	Antwort
13	Die meisten Punkte ziehen auf eine prospektive Studie hin, in der Data selection phase wurde aber auch auf retrospektive Studien gezeigt, müsste dann nicht hier auch etwas dazu passendes ergänzt werden ?
26	Bzgl. Imaging data komplett. Es werden ja auch andere Daten erhoben die wir zusammen mit den Bildgebungsdaten zur Analyse verwenden. Bin mir nicht sicher ob die hier mit hinein gehören ?
32	For a prospective trial/study this seems complete. For a retrospective analysis, also e.g. search strategies to identify patients / studies in the PACS might be relevant.
46	Transfer to storage
52	If test-retest is mentioned: There are also similar studies, which are not conducted with the same patients but controlled cohorts, not sure how to name them. If reconstruction is mentioned, other aspects should also be mentioned specifically. For example, device and manufacturer etc... I do understand that reconstruction is somewhat special, as it allows to generate different images from the same measurement, however, the coil in a MRI has a similar effect and should also be mentioned.
55	I am not totally happy with this phase. Two solutions: - Either rename this phase to "image acquisition" instead of "data acquisition" - Or include the other data (clinical, genetic, etc.) as well in this phase.
62	See my comment before - All the aspects pertain to image acquisition, so the name of the phase should reflect that. Why is there no aspect on acquisition on meta-data?
66	Patient preparation should be added, such as rectal filling, spasmolytics etc.

Zusammenfassung für P3A1(P3A1SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	6	16.67%
Agree (L4)	13	36.11%
Strongly agree (L5)	13	36.11%
Keine Antwort	1	2.78%
Nicht gezeigt	0	0.00%

Zusammenfassung für P3A1C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	9	25.00%
Keine Antwort	27	75.00%
Nicht gezeigt	0	0.00%

ID	Antwort
5	Replace radiomics software with radiomics pipeline.
24	The data source can potentially also be the scanner directly or some data repository. Thus, PACS export is a bit restrictive in my view.
30	This is necessary for any image processing technique and I'm not sure if it is necessary to address it
44	could use other data sources than PACS, e.g. publicly available data bases. could use "image data curation" and could be summarize with next phase
46	replace Radiomics software by Radiomics workflow
48	Since not all institutions use a PACS system - especially research institutions - and some scanners also use other image formats such as ECAT7 (PET) this aspect could be slightly more generalized: English name: Export of imaging data English definition: Export of imaging data, e.g. DICOM, from the data archive, e.g. PACS, to be able to use them in the Radiomics software. German name: Export der Bilddaten German definition: Export der Bildaten, z.B. DICOM, aus dem Datenarchiv, z.B. PACS, um sie in der Radiomics Software nutzen zu können.
53	Not sure if this is the correct place for disagree, but just the export itself is just a technical step not changing the data, the outcome or anything. So of course one could mention it in a paper, but for me this would be highly optional.
64	Auch wenn sich der PACS-Export (und möglicherweise Import in dein Forschungs-PACS) normalerweise einfach darstellt, so ist das meistens in den Ethik-Anträgen wichtig. Die direkte Pseudonymisierung nach der entsprechenden Anlage im dicom-Standard könnte hier in einer Publikation erwähnt werden.
70	Does not need to be PACS, not every institution has it.

Zusammenfassung für P3AC(P3ACSQ001)[]

Completeness of aspects in this phase Please indicate whether you agree or disagree that all relevant aspects are represented in this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	1	2.78%
Disagree (L2)	10	27.78%
Neither agree nor disagree (L3)	4	11.11%
Agree (L4)	11	30.56%
Strongly agree (L5)	7	19.44%
Keine Antwort	3	8.33%
Nicht gezeigt	0	0.00%

Zusammenfassung für P3ACC

Do you have any comments on the completeness of aspects for this phase?

Antwort	Anzahl	Prozent
Antwort	15	41.67%
Keine Antwort	21	58.33%
Nicht gezeigt	0	0.00%

ID	Antwort
5	Besides exporting DICOM, the conversion to a different format (without changing the images themselves) might be necessary, but this could also be included in the PACS export step.
20	Definition of a standard processing (matrix) data format "after" DICOM, e.g. NIFTI
26	Gehört hier nicht auch der Import ins PACS dazu?
30	There seems to be too little content in this section to justify "Data Management" to be its own phase
32	I would also add other (clinical / histo / lab / genomics /) data here, like "data curation"
43	See my comments for the phase.
46	limit to DICOM? Replace PACS by storage?
52	See previous comment to this phase and its name.
53	Maybe not the correct place, but still missing ethics and privacy aspects.
55	I would prefer to see data management including the multidisciplinary data. This is really _key_ in any Radiomics project, to keep all data (not only imaging) well ordered and documented, and ready for being analyzed by mostly automated pipelines.
59	Pseudonymization
	Anonymisation für Datenschutzkonformes Weiterverarbeiten der Bilder
62	See my comments on the phase. I think there needs to be a discussion on the issue of IDs, anonymization etc.
66	Especially for multi-center studies one has to think about data protection which probably is part of this aspect.
69	- use of additional tools for organizing different subparts of data and (manual or automatic) segmentations could also be part of this phase
70	Data management would include other steps as well, such as organization in given folder structure for subsequent analysis, e.g. according to given standard (e.g. BIDS) etc.

Zusammenfassung für P4A1(P4A1SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	0	0.00%
Agree (L4)	14	38.89%
Strongly agree (L5)	16	44.44%
Keine Antwort	4	11.11%
Nicht gezeigt	0	0.00%

Zusammenfassung für P4A1C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	3	8.33%
Keine Antwort	33	91.67%
Nicht gezeigt	0	0.00%

ID	Antwort
43	It is not clear to me what is meant by "evaluation" here. I would strictly distinguish between preprocessing done before segmentation (preprocessing the creator or reviewer of the segmentation sees) and preprocessing done as a part of feature extraction.
53	Processing seems to be too generic, preprocesing? Or pre- and postprocessing, to distinguish from the actual analysis?
69	- "preparation of image data for evaluation" => "preparation of image data for further analysis"? to me, evaluation rather sounds like "deriving some quality measure from produced results"; by contrast, "für die Auswertung" in German sounds right

Zusammenfassung für P4A2(P4A2SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	4	11.11%
Agree (L4)	16	44.44%
Strongly agree (L5)	13	36.11%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P4A2C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	4	11.11%
Keine Antwort	32	88.89%
Nicht gezeigt	0	0.00%

ID	Antwort
32	Could also include reconstruction ("data acquisition")?
48	The term "PET signal image" appears very uncommon to me. Please consider rephrasing the definitions: Conversion of the image signal (image data) into another representation (e.g. conversion of PET image into Standardized Uptake Values (SUV)). Konvertierung des Bildsignals (Bilddaten) in eine andere Repräsentation (z.B. Konvertierung des PET Bildes in Standardised Uptake Values (SUV)).
53	"Conversion" sounds technical, the described example would be more preprocessing? But not sure.
55	optional

Zusammenfassung für P4A3(P4A3SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	4	11.11%
Agree (L4)	17	47.22%
Strongly agree (L5)	11	30.56%
Keine Antwort	3	8.33%
Nicht gezeigt	0	0.00%

Zusammenfassung für P4A3C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	4	11.11%
Keine Antwort	32	88.89%
Nicht gezeigt	0	0.00%

ID	Antwort
23	Den Begriff "image processing/Bildverarbeitung" finde ich zu allgemein. Der Begriff umfasst nicht nur die Vorbereitung zur Merkmalsextraktion, sondern auch die weiteren Schritte. Rauschunterdrückung und Grauwertnormalisierung könnte schon mit "Image formation" (vorne) abgedeckt werden.
32	I would maybe add "normalization" explicitely to the aspect name
43	In my opinion no such filtering should be applied to the images before segmentation (it can be as a part of a segmentation algorithm, but then the reviewer should still see the unfiltered images).
70	Might not be necessary for all types of data

Zusammenfassung für P4A4(P4A4SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	0	0.00%
Neither agree nor disagree (L3)	0	0.00%
Agree (L4)	17	47.22%
Strongly agree (L5)	17	47.22%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P4A4C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	0	0.00%
Keine Antwort	36	100.00%
Nicht gezeigt	0	0.00%

ID	Antwort

Zusammenfassung für P4A5(P4A5SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	0	0.00%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	20	55.56%
Strongly agree (L5)	10	27.78%
Keine Antwort	4	11.11%
Nicht gezeigt	0	0.00%

Zusammenfassung für P4A5C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	2	5.56%
Keine Antwort	34	94.44%
Nicht gezeigt	0	0.00%

ID	Antwort
23	Registrierung ist nur notwendig, wenn mehrere Bilddatensätze derselben Region ausgewertet und verglichen werden (insofern auch optional)
43	If I understand the definition correctly, I would call this resampling rather than registration.

Zusammenfassung für P4A6(P4A6SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	3	8.33%
Agree (L4)	18	50.00%
Strongly agree (L5)	10	27.78%
Keine Antwort	4	11.11%
Nicht gezeigt	0	0.00%

Zusammenfassung für P4A6C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	5	13.89%
Keine Antwort	31	86.11%
Nicht gezeigt	0	0.00%

ID	Antwort
23	auch optional (wie vorher)
32	Why separate pre- and post segmentation?
43	If I understand the definition correctly, I would call this resampling rather than registration.
52	I find it odd that this step is the only one which indicates a particular order. The order is also important for other steps, for example: the result might be different depending on the order of filtering and resampling. I would therefore not differentiate between pre- and postsegmentation processing.
69	- maybe "and manual or semi-automatic refinement of segmentations may be necessary"

Zusammenfassung für P4A7(P4A7SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	3	8.33%
Agree (L4)	15	41.67%
Strongly agree (L5)	13	36.11%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P4A7C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	7	19.44%
Keine Antwort	29	80.56%
Nicht gezeigt	0	0.00%

ID	Antwort
13	hm passt das nicht zu data acquisition ? Bei der Segmentierung wäre es doch schon zu spät um zu schauen ob es da Qualitätsverlust gibt ?
14	Outliers, errors, artifacts, and other quality indices could be subsumed here.
20	Outlier detection is mostly an image based process but not part of the actual processing of the images
32	part of "data acquisition" / "data management". Imo, this is where QC should take place.
43	I assume this only refers to automatic outlier analysis via image processing, in that case manual outlier analysis is missing in the "data management" phase. Also the criteria for outliers should have been defined in the "data selection" phase.
55	Die Beschreibung (dt+engl) ist nicht gut formuliert. Anscheinend ist eine Qualitätsbewertung gemeint. Dann geht es aber nicht nur um Ausreißer. Und "Ausreißer" wäre ansonsten ein zu allgemeiner Begriff, der sich nicht nur auf die Bildqualität bezieht. Sollte neu formuliert und geklärt werden.
64	Wichtig ist hier insbesondere wie bei großen Fallzahlen ein geeigneter Score mit hinreichender Genauigkeit die Outlier detektierbar macht.

Zusammenfassung für P4A8(P4A8SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	0	0.00%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	15	41.67%
Strongly agree (L5)	17	47.22%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P4A8C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	4	11.11%
Keine Antwort	32	88.89%
Nicht gezeigt	0	0.00%

ID	Antwort
5	Step can be optional when using neural networks.
30	I would prefer Region of interest
32	I would be more detailed here ... Segmentation (voxel-wise) vs. e.g. bounding box delineation. Also manual vs. semi-manual vs. automated
48	See earlier comments about the use of the terms VOI and ROIs

Zusammenfassung für P4A9(P4A9SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	3	8.33%
Agree (L4)	18	50.00%
Strongly agree (L5)	10	27.78%
Keine Antwort	4	11.11%
Nicht gezeigt	0	0.00%

Zusammenfassung für P4A9C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	6	16.67%
Keine Antwort	30	83.33%
Nicht gezeigt	0	0.00%

ID	Antwort
23	optional, und nur in Spezialfällen erforderlich
32	Could also be used to assess inter-rater agreement
46	Re-segmentation versus Consensus-segmentation?
64	Eine Strategie welche der Daten einer Resegmentierung zugeführt werden ist hier möglicherweise zentral.
69	- can also be necessary in cases without prior harmonization of image geometry
70	Might it be necessary to specify if this step shall be done automatically or manually?

Zusammenfassung für P4AC(P4ACSQ001)[]

Completeness of aspects in this phase Please indicate whether you agree or disagree that all relevant aspects are represented in this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	15	41.67%
Strongly agree (L5)	12	33.33%
Keine Antwort	6	16.67%
Nicht gezeigt	0	0.00%

Zusammenfassung für P4ACC

Do you have any comments on the completeness of aspects for this phase?

Antwort	Anzahl	Prozent
Antwort	4	11.11%
Keine Antwort	32	88.89%
Nicht gezeigt	0	0.00%

ID	Antwort
20	Other image-based operations, e.g. direct regression of values, beside segmentation are missing
32	see my remarks above
46	Multi-party segmentation: generation of multiple independent segmentations of the same data set
62	Not a radiologist, so I cannot really evaluate the details. Sounds good to me.

Zusammenfassung für P5A1(P5A1SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	4	11.11%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	17	47.22%
Strongly agree (L5)	11	30.56%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P5A1C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	8	22.22%
Keine Antwort	28	77.78%
Nicht gezeigt	0	0.00%

ID	Antwort
20	Preprocessing is misleading
32	I see the point you're making wrt differentiating "Image Processing" (Phase Image Processing & Segmentation) from this, but find it artificial. Steps such as Fourier transforms (or LoG filters,...) could inherently be considered part of features (as e.g. GLCM calculation as basis for Haralick textures)
48	The term texture analysis might be a bit misleading in the context of preprocessing. Often, texture analysis or textural feature analysis is understood as part of the actual feature extraction.
53	Even with the explanation this seems to be confusing with the previous "image processing" step
55	Texture analysis is in most cases already a variant of feature extraction. The definition should be rephrased accordingly.
62	Why not call it "feature preprocessing" to make the distinction to "image preprocessing" even more clear?
69	- "steps that are needed for specific features (e.g. a fourier transformation) but have no general relevance or validity" => maybe "steps that are needed for and limited to specific features (e.g. a fourier transformation)"; otherwise, in a quick read, it sounds like these features are generally not relevant or valid; no problem with the German version
70	The definition might be rephrased to really make it a definition. The last sentence seems to be more of an explanation which is not present in all the other definitions reviewed so far. Furthermore, the term "preprocessing" might be used differently in different settings and might also include the previous phase in image processing.

Zusammenfassung für P5A2(P5A2SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	4	11.11%
Neither agree nor disagree (L3)	6	16.67%
Agree (L4)	14	38.89%
Strongly agree (L5)	10	27.78%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P5A2C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	10	27.78%
Keine Antwort	26	72.22%
Nicht gezeigt	0	0.00%

ID	Antwort
13	hängt aber mit der Segmentierung zusammen, wäre auch da ggf anzuhängen.
20	Since it is dependent on implementation and extraction method, this point is not a generic phase
26	Mixed use of ROI and VOI is somehow irritating. I suggest to retain only one of them.
30	ROI in the name and VOI in the description is a bit confusing, could perhaps be harmonized
32	Part of feature extraction itself. I would rather define an aspect "feature calculation from ROI" or similar
43	There is no reason to specify that excluded voxels are replaced with NaN. PyRadiomics, for instance, uses a mask on the original image. Also, it might make sense to compute features outside the mask in some cases.
48	See earlier comments about the consistent use of the terms ROI and VOI.
52	This is rather an implementation detail than a necessary step. It is also possible to ignore this step and work with masks (typical ITK-way to go.) Similar, image cropping can be done, but again, is rather a question of implementation / performance than of analysis. Since this step should not influence the results, it should not be reported. (From a use-case point of view. This differs of course, if the data needs to be absolute reproducible.)
64	Den Satz "Ausgeschlossene Pixel/Voxel werden mit NaN ersetzt." könnte man möglicherweise streichen.
70	If the definition talks about VOI, the label of this aspect should also be called VOI extraction. The definition itself seems a bit ambiguous to me, as the extraction of the VOI itself could also mean the segmentation of the respective voxels. What seems to be meant here is the extraction of the relevant features within this VOI, is that correct?

Zusammenfassung für P5A3(P5A3SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	3	8.33%
Agree (L4)	17	47.22%
Strongly agree (L5)	11	30.56%
Keine Antwort	3	8.33%
Nicht gezeigt	0	0.00%

Zusammenfassung für P5A3C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	5	13.89%
Keine Antwort	31	86.11%
Nicht gezeigt	0	0.00%

ID	Antwort
23	optional, nur notwendig, wenn die Bilder inhomogen ausgeleuchtet sind (z.B. bei MRT mit phased array coils), sonst nicht...
32	where is the difference to normalization?
48	German definition:Texturmerkmalen....
52	A possible steps, but again not necessary. Might be included in the feature caluclation / binning process.
55	Intensity binning should be part of the feature extraction algorithm, since it might be needed for some and unwanted for others.

Zusammenfassung für P5AC(P5ACSQ001)[]

Completeness of aspects in this phase Please indicate whether you agree or disagree that all relevant aspects are represented in this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	2	5.56%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	3	8.33%
Agree (L4)	14	38.89%
Strongly agree (L5)	12	33.33%
Keine Antwort	3	8.33%
Nicht gezeigt	0	0.00%

Zusammenfassung für P5ACC

Do you have any comments on the completeness of aspects for this phase?

Antwort	Anzahl	Prozent
Antwort	5	13.89%
Keine Antwort	31	86.11%
Nicht gezeigt	0	0.00%

ID	Antwort
43	The feature extraction itself is missing.
46	DL-based feature extraction
48	Should the actual feature extraction not also be considered as a processing step here?
55	Of course, the feature extraction itself is missing in the list of Aspects in this phase.
62	Again, not a radiologist. But as mention before, I think the post-processing step, the quality control of the extracted features is missing.

Zusammenfassung für P6AC(P6ACSQ001)[]

Please indicate whether you agree or disagree that all relevant aspects are represented in this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	1	2.78%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	10	27.78%
Agree (L4)	9	25.00%
Strongly agree (L5)	7	19.44%
Keine Antwort	6	16.67%
Nicht gezeigt	0	0.00%

Zusammenfassung für r420q0

Do you have any comments on the completeness of aspects for this phase?

Antwort	Anzahl	Prozent
Antwort	14	38.89%
Keine Antwort	22	61.11%
Nicht gezeigt	0	0.00%

ID	Antwort
20	This phase could include the selection of the other parameters that are not image-based
23	meist wichtiger, aber optionaler Schritt
26	Was ist mit dem Aspekt wie mit Datensätzen umgegangen wird, für die nicht alle Modalitäten vorliegen, die also nicht komplett sind?
30	Perhaps this phase could be integrated into "Modeling"
32	I would see this as part of "data acquisition" or "data management"
34	Steps could be similar to previous phases. - preparation of data (e.g. clinical data) - cleaning of data - etc.
46	handling incomplete/missing data
48	There are some subaspects in the supplement - Development of database - Exploratory analysis - Data handling
55	As said before, I would prefer to see the multimodal (better: multidisciplinary) data integration as part of data management. This would also allow for, e.g., adding some non-imaging features to an adaptive multidisciplinary deep learning feature extractor.
62	It should be mentioned where the clinical data come from, i.e. is the image data management phase also responsible for providing the clinical data? Or will these data be provided by someone else? And again, the ID issue should be mentioned here, because clinical (and especially genetic!!) data will have other identifiers than the imaging data.
64	Möglicherweise lässt sich hier kurz erwähnen welche Daten hier schon alle in vergangenen Studien integriert wurden.
66	Clinical data such as age, gender, ethnicity etc... Genetic data Histology
69	- At least some detail / example would be good for this phase
70	As stated in the first round regarding the phases, this phase seems to be inconclusive to me. A clearer definition of the phase itself as well as a definition of different aspects would be helpful.

Zusammenfassung für P7A1(P7A1SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	4	11.11%
Neither agree nor disagree (L3)	4	11.11%
Agree (L4)	16	44.44%
Strongly agree (L5)	10	27.78%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P7A1C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	7	19.44%
Keine Antwort	29	80.56%
Nicht gezeigt	0	0.00%

ID	Antwort
14	This is machine learning model selection to differentiate it to mathematical models in general.
23	den Begriff hatte ich vorne falsch verstanden. Ich dachte es handelt sich um ein Modell, mit dem die Ergebnisse bewertet werden. Vielleicht wäre hier der Begriff "Wahl der Auswertemethode" besser. Bei der Segmentierung vorne wurde nicht auf die Methode abgehoben, hier aber schon (daher etwas inkonsistent).
30	I've also seen papers where they don't use machine learning but classical statistics so perhaps one could be a little more general in the definition
43	This should be moved to the data selection phase. Furthermore this should also include the choice of validation methodology.
44	what about statistical analyses? would generalize this to "analysis"
55	The definition formulations are quite ugly. Please add clarity to the chosen language and reduce redundancy.
68	Choice of statistical methodology und es bedarf nicht immer einer Lernbasierten Analyse, z.b. Lasso-Regression

Zusammenfassung für P7A2(P7A2SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	0	0.00%
Agree (L4)	19	52.78%
Strongly agree (L5)	12	33.33%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P7A2C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	8	22.22%
Keine Antwort	28	77.78%
Nicht gezeigt	0	0.00%

ID	Antwort
32	Use explicit feature reduction strategies as another aspect, e.g. genetic algorithms, stepwise regression, or random forest importances
34	Maybe also based on domain experts
43	This is optional, e.g. the Random Forest does not need feature selection.
46	why "may be"?
52	"Feature selection" is used as a standing term in machine learning and would not include the stability analysis but would focus on prognostic features. Suggestion: "Selection of radiomics features"
62	Non-reproducible features should have been excluded before, as a post-processing step of feature acquisition.
69	- maybe differentiate / define and relate the following terms: robustness, stability, repeatability and reproducibility of features
70	To better separate this part from previous phases, it might be helpful to state in the earlier phases that there ALL potential radiomic features are extracted, while here, the final selection takes place. This was not clear until now.

Zusammenfassung für P7A3(P7A3SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	0	0.00%
Neither agree nor disagree (L3)	3	8.33%
Agree (L4)	19	52.78%
Strongly agree (L5)	11	30.56%
Keine Antwort	3	8.33%
Nicht gezeigt	0	0.00%

Zusammenfassung für P7A3C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	2	5.56%
Keine Antwort	34	94.44%
Nicht gezeigt	0	0.00%

ID	Antwort
13	sind das nicht Unterpunkte von feature selection ?
43	I am not fully sure what is meant by this. It is a sub-aspect of feature selection, but "analysis on the predictive power" involves model building, doesn't it? I would actually consider this as a part of the model building process, where it can be done in a nested cross-validation, for example (if it is interactive in the sense of humans deriving knowledge from looking at data or images, it must not be done on data that will be used for validation, of course).

Zusammenfassung für P7A4(P7A4SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	3	8.33%
Agree (L4)	16	44.44%
Strongly agree (L5)	13	36.11%
Keine Antwort	3	8.33%
Nicht gezeigt	0	0.00%

Zusammenfassung für P7A4C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	5	13.89%
Keine Antwort	31	86.11%
Nicht gezeigt	0	0.00%

ID	Antwort
13	sind das nicht Unterpunkte von feature selection ?
20	Combination of features is not the same thing as feature selection, should be differentiated
43	Like feature selection, this is optional. Strictly speaking, a method like PCA is not feature selection, because it creates new features. Actual feature selection methods like mRMR should also be mentioned somewhere.
62	This belongs to the aspect exploratory analysis.
64	Hierbei sollte auch die Korrelation einiger gängiger radiomic Feature beachtet werden.

Zusammenfassung für P7A5(P7A5SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	1	2.78%
Agree (L4)	18	50.00%
Strongly agree (L5)	13	36.11%
Keine Antwort	3	8.33%
Nicht gezeigt	0	0.00%

Zusammenfassung für P7A5C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	3	8.33%
Keine Antwort	33	91.67%
Nicht gezeigt	0	0.00%

ID	Antwort
32	Could also be part of the previous phase
43	Optional
62	Feature harmonization should have been done before, as a post-processign step of feature aqcuisition.

Zusammenfassung für P7A6(P7A6SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	5	13.89%
Neither agree nor disagree (L3)	3	8.33%
Agree (L4)	12	33.33%
Strongly agree (L5)	13	36.11%
Keine Antwort	3	8.33%
Nicht gezeigt	0	0.00%

Zusammenfassung für P7A6C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	9	25.00%
Keine Antwort	27	75.00%
Nicht gezeigt	0	0.00%

ID	Antwort
20	Should be generalized to both classification and regression
30	The output doesn't have to be classification, it could also be a regression problem etc.
	Perhaps just call it "evaluation"
32	Isn't this part of validation?
34	What is the difference to "model building"? Do we always have a classification problem?
43	This is totally unclear to me. It can't be the validation because that comes later, so which data is used here? Furthermore, we can also do regression instead of classification.
46	Outcome -> Endpunkt
55	"outcome" is too specific as endpoint. This should be formulated consistently with the target definition in the data selection phase.
62	This belongs to the aspect model building.
69	- sounds like only classification tasks will be performed; regression tasks should probably also be reflected

Zusammenfassung für P7A7(P7A7SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	1	2.78%
Neither agree nor disagree (L3)	6	16.67%
Agree (L4)	15	41.67%
Strongly agree (L5)	12	33.33%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für P7A7C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	8	22.22%
Keine Antwort	28	77.78%
Nicht gezeigt	0	0.00%

ID	Antwort
14	Again, this might be confusing when one might understand mathematical models.
23	Dies ist eine andere Modellbildung als die vorher erwähnte Modellierung der "Auswertemethode"
30	The model was already trained in the step above and the model was already chosen in the first step I'm probably missing sth here?
43	This should include the methodology to optimize parameters of the model (including the model choice itself), e.g. (nested) cross-validation. Also I think "radiomics model" should be defined (any classification or regression model that uses radiomic features?)
44	whats the distinct difference to "classification"?
52	Would suggest model training or model deduction instead. The "building" process is usually fixed with the choice of classification algorithm.
53	"Model building" vs "Modeling" is strange
62	What is the definiton of a radiomics model? a model that contains radiomics features?

Zusammenfassung für P7A8(P7A8SQ001)[The definition of the aspect is correct, the naming is accurate and the aspect is assigned to the correct phase.]

Please indicate whether you agree or disagree with the inclusion, definition and naming of this aspect.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	14	38.89%
Strongly agree (L5)	13	36.11%
Keine Antwort	5	13.89%
Nicht gezeigt	0	0.00%

Zusammenfassung für P7A8C

Do you have any comments on this aspect? Especially if you disagree it would be helpful if you could suggest changes.

Antwort	Anzahl	Prozent
Antwort	6	16.67%
Keine Antwort	30	83.33%
Nicht gezeigt	0	0.00%

ID	Antwort
30	Is there supposed to be a train/test/validation set like it is usual in machine learning? If not how is this different from the "classification"?
43	I assume that this refers to validation on separate data. If so, it should be stated clearly. However, it is also possible to combine the model building and validation process and do cross-validation.
44	If I am not mistaken "testing" has become the more accepted term
46	further specification? external validation
48	See earlier comment about the terminology - training, validation, testing
68	Discriminative power; diagnostic accuracy; predictive value;?

Zusammenfassung für P7AC(P7ACSQ001)[]

Completeness of aspects in this phase Please indicate whether you agree or disagree that all relevant aspects are represented in this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	2	5.56%
Neither agree nor disagree (L3)	4	11.11%
Agree (L4)	15	41.67%
Strongly agree (L5)	11	30.56%
Keine Antwort	4	11.11%
Nicht gezeigt	0	0.00%

Zusammenfassung für P7ACC

Do you have any comments on the completeness of aspects for this phase?

Antwort	Anzahl	Prozent
Antwort	5	13.89%
Keine Antwort	31	86.11%
Nicht gezeigt	0	0.00%

ID	Antwort
32	see comment above on feature reduction
43	This phase is hard to describe because you can combine several aspects within a nested cross-validation. Some studies that do CV still have a separate validation set, others don't. Exploratory analysis is only allowed on data that will never be used for validation. Another aspect that is unclear to me is what to do if the model we built is not predictive. Do we need any additional steps before we can draw this conclusion (and report/publish it)?
55	In modern Radiomics approaches, deep learning plays a central role in various stages of the methodology. As a consequence, several of the named Aspects would not be required anymore. This should be highlighted appropriately.
64	Interessant welche Tools und Modelle hier gegenwärtig State-of-the-Art sind.
69	- regression should be included as a predictive task

Zusammenfassung für P8AC(P8ACSQ001)[]

Please indicate whether you agree or disagree that all relevant aspects are represented in this phase.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	3	8.33%
Agree (L4)	13	36.11%
Strongly agree (L5)	7	19.44%
Keine Antwort	10	27.78%
Nicht gezeigt	0	0.00%

Zusammenfassung für P8ACC

Do you have any comments on the completeness of aspects for this phase?

Antwort	Anzahl	Prozent
Antwort	10	27.78%
Keine Antwort	26	72.22%
Nicht gezeigt	0	0.00%

ID	Antwort
13	Vielleicht sollte man hier noch aufführen was denn alles reported werden soll auch in Bezug auf Reproduzierbarkeit ? oder schließt dies alles aus den vorherigen Phasen ein ?
26	Macht es Sinn hier noch zu unterscheiden zw. dem NAKO internen Reporting und dem Reporting in wissenschaftlichen Publikationen?
32	Clearly request the authors to be transparent about all previous aspects / choices in the workflow
34	Is there no standard procedure to report results?
43	We could also mention making data and code of our study available. (I don't remember if that was mentioned in the phase section)
44	not sure whether this really fits here but I feel it would be helpful to define/find consensus whether training results are reported along with testing.
46	as suggested before including M&M and also title, intro and discussion include some sort of "total computing cost"
55	I think, you should invest much more level of detail here, where much of the scientific part is located. - Comprehensive presentation of individual results. - Comparison of results to the state of the art - Discussion of limitations of the chosen approach and dataset (e.g. lack of generalizability, lack of robustness, etc.) - etc.
62	As mentioned before, should be made clearer if this pertains only to the preparation of a scientific publication
66	Maybe a list of features that have to always be reported should be included.

Zusammenfassung für W1(W1SQ001)[The order of the phases is correct.]

Please indicate whether you agree or disagree with the order of the phases in the workflow.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	4	11.11%
Neither agree nor disagree (L3)	2	5.56%
Agree (L4)	18	50.00%
Strongly agree (L5)	12	33.33%
Keine Antwort	0	0.00%
Nicht gezeigt	0	0.00%

Zusammenfassung für W1C

Do you have any comments on the order of phases in the workflow?

Antwort	Anzahl	Prozent
Antwort	8	22.22%
Keine Antwort	28	77.78%
Nicht gezeigt	0	0.00%

ID	Antwort
32	"MM data integration" would be earlier. Image processing and feature extraction partly overlap in my mind
43	See previous comments.
44	workflow does not account for end-to-end deep learning implementations
45	selection and acquisition can also be switched...depends
48	For me, feature selection/harmonization is a prerequisite for model building. Similarly, classification and validation can only be performed after model building. Hence, I would suggest to reorder the phases accordingly.
52	There is some flexibility in the order of this process, for example, when segmentation is performed (might be done even before data acquisition) or when multimodal data is integrated. So I strongly vote for a flexible "model".
55	In general, the pipeline is correct. I mostly agree if it is about "classical" radiomics. Many things change when deep learning is involved (as it is the case in many modern Radiomics approaches). In addition, I would prefer to have multimodal data integration as part of data acquisition and management. See other comments above (earlier phases/questions).
62	As mentioned before, the study question, or "choice of prediction target" needs to be established before the workflow starts, not as a part of the image data acquisition.

Zusammenfassung für W2(W2SQ001)[The phases specified fully cover all relevant phases.]

Please indicate whether you agree or disagree with the completeness of the phases in the workflow.

Antwort	Anzahl	Prozent
Strongly disagree (L1)	0	0.00%
Disagree (L2)	3	8.33%
Neither agree nor disagree (L3)	3	8.33%
Agree (L4)	19	52.78%
Strongly agree (L5)	9	25.00%
Keine Antwort	2	5.56%
Nicht gezeigt	0	0.00%

Zusammenfassung für W2C

Do you have any comments on the completeness of phases in the workflow?

Antwort	Anzahl	Prozent
Antwort	8	22.22%
Keine Antwort	28	77.78%
Nicht gezeigt	0	0.00%

ID	Antwort
5	An alternative deep learning workflow could be added, which goes from image processing to reporting.
13	siehe Kommentare in den jeweiligen Fragen
23	Eventuell könnte eine weitere Phase vorangestellt werden, in der die "Choice of diagnostic/prediction target" zusammen mit der untersuchten Kohorte (Einschluss/Ausschlusskriterien) abgehandelt werden, bevor es mit "Data selection" weitergeht.
46	include a "literature review and conceptualisation" phase, at the beginning? "sanity checks"?
53	Maybe the "study definition" or "overall research/clinical question" could be put in front, if it's not added to "data selection" (which for me sounds not like a 100% fit either)
55	cf. comments above
59	See comments before
62	Already mentioned, post-processing of the extracted radiomics features is missing.