# Issue 611-55th SIG; minutes

The SIG reviewed the scope-notes proposed for new properties of S23 Position Measurement (HW by TV, MD, GH), an outline of which was given in the 54th SIG meeting.

The properties in question are:

* O30 determined position (was determined by)
* O31 has validity time-span (is time-span validity for)
* O32 measured position (was located by)

Furthermore, the SIG reviewed the examples proposed for S23 Position Measurement.

The details of the property definitions for O30 through O32, as well as the examples of S23 can be found below:

### Properties definitions

**O30 determined position (was determined by)**

Domain:

S23 Position Measurement

Range:

E94 Space Primitive

Subproperty of:

S4 Observation: O16 observed value (value was observed by): E1 CRM Entity

Quantification:

many to many (0,n:0,n)

Scope note:

This property associates an instance of S23 Position Measurement with the instance of E94 Space Primitive which is the result of that measurement. The instance of E94 Space Primitive approximates the place occupied by the entity whose position is being measured.

Examples:

* The measurement of the position of the Titanic by captain Smith after hitting an iceberg (S23) *O30 determined position* 41°44′N 50°24′W (E94) [This was quickly measured based on the distance travelled since the previous known location] (Tikkanen, 2022)
* The measurement of the position of the Titanic by officer Joseph G. Boxhall after the initial distress signal was sent (S23) *O30 determined position* 41°46′N 50°14′W (E94) [This was measured with more precision and revised the original position] (Tikkanen, 2022)
* The measurement of the position of the Titanic by Robert Ballard after the Titanic ship-wreck was found (S23) *O30 determined position* 41°43′32″N 49°56′49″W (E94) (‘Wreck of the Titanic’, Wikipedia, 2022)

In First Order Logic:

Oxx1(x,y) ⇒ S23(x)

Oxx1(x,y) ⇒ E94(y)

**O31 has validity time-span (is time-span validity for)**

Domain:

S23 Position Measurement

Range:

E52 Time-Span

Subproperty of:

E2 Temporal Entity: P4 has time-span (is time-span of): E52 Time-Span

Quantification:

many to one, necessary (1,1:0,n)

Scope note:

This property associates an instance of S23 Position Measurement with the instance of E532 Time-Span for which the measurement is valid. No inferences can be made in relation to the validity of the measurement outside this time-span despite the fact that some measured entities are relatively stable and their positions may remain the same after the measurement. The time-span of validity should fall within (*P86 falls within (contains)*) the overall time-span *(P4 has time-span (is time-span of)* of the process of measurement.

Examples:

* The measurement of the position of the Titanic by captain Smith after hitting an iceberg (S23) *O31 has validity time-span* from 15 April 1912 00:15 to 15 April 1912 00:20 (E52) [This was only valid while the position was being re-measured] (Tikkanen, 2022)
* The measurement of the position of the Titanic by officer Joseph G. Boxhall after the initial distress signal was sent (S23) *O31 has validity time-span* from 15 April 1912 00:20 to 15 April 1912 02:17 (E52) [This was valid after the position was re-measured with more precision and was the measured position of the ship until the final distress signal was sent] (Tikkanen, 2022)
* The measurement of the position of the Titanic by Robert Ballard after the Titanic ship-wreck was found (S23) *O31 has validity time-span* 1 September 1985 12:48 (E52) (‘Wreck of the Titanic’, Wikipedia, 2022)

In First Order Logic:

Oxx2(x,y) ⇒ S23(x)

Oxx2(x,y) ⇒ E52(y)

Oxx2(x,y) ⇒ P4(x,z) ) ∧ P86(y,z)

**O32 measured position of (was located by)**

Domain:

S23 Position Measurement

Range:

S15 Observable Entity

Subproperty of:

S4 Observation: O8 observed (was observed by): S15 Observable Entity

Quantification:

many to one, necessary (1,1:0,n)

Scope note:

This property connects an instance of S23 Position Measurement with the instance of S15 Observable Entity whose position is being measured.

Examples:

* The measurement of the position of the Titanic by captain Smith after hitting an iceberg (S23) *O32 measured position of* the Titanic (E22) (Tikkanen, 2022)
* The measurement of the position of the Titanic by officer Joseph G. Boxhall after the initial distress signal was sent (S23) *O32 measured position of* the Titanic (E22) (Tikkanen, 2022)
* The measurement of the position of the Titanic by Robert Ballard after the Titanic ship-wreck was found (S23)  *O32 measured position of* the Titanic (E22) (‘Wreck of the Titanic’, Wikipedia, 2022)

In First Order Logic:

Oxx3(x,y) ⇒ S23(x)

Oxx3(x,y) ⇒ S15(y)

### Examples for S23 Position Measurement

* the measurement of the position of the Titanic by captain Smith after hitting an iceberg (S23) (Tikkanen, 2022)
* the measurement of the position of the Titanic by officer Joseph G. Boxhall after the initial distress signal was sent (S23) (Tikkanen, 2022)
* the measurement of the position of the Titanic by Robert Ballard after the Titanic ship-wreck was found (S23) (‘Wreck of the Titanic’, Wikipedia, 2022)

### Discussion points:

The HW mentions the following two properties without any further reference to them, which creates the (false) impression that they are properties of S23:

* S23 Position Measurement. *Oxx4 observed situation* *(situation observed by)*: Sxx Observable Situation
* E93 Presence. *Oxx5 forms part of (consists of)*: Sxx Observable Situation

However, the former is only presented as part of an example in which the S4 Observation connected to an Observable situation by this property, is simply instantiated by a more specific class (S23).

In any case, seeing as there is no HW for the properties of Sxx Observable Situation in this document (nor will they make it to CRMsci v2.0), it is proposed that discussions relative to Oxx4, Oxx5 above be moved to a new issue.

**HW**: AK to formulate said issue.

### Proposal

Admit the definitions for properties O30, O31, O32 and the examples for S23.

The SIG voted to admit the definitions for properties O30, O31, O32 and the examples for S23.
**Outcome of the vote.**
In favor: 11 (8 in person, 3 online)
Against: None
(13 participants abstained)

### Decision:

introduce the definitions & examples in CRMsci v2.0.

**Issue closed**