

# Error Model Sub-Committee Update

September 25<sup>th</sup>, 2025

Chair Contact: Marc Willerth, H&P marc.willerth@hpinc.com



#### **Sub-Committee Chair**

#### Marc Willerth

- H&P (via MagVAR acquisition)
- 15+ years in varying facets of wellbore positioning product support, survey corrections, & error modeling
- Contact: <u>Marc.Willerth@hpinc.com</u>



## Attendance – September 24, 2025

- 31 people in-person, additional 20 online attendees

# **Topics Covered**

- Finalize Initial Rotating 6-axis Magnetic Survey Release
- Outline components of rotating 6-axis guidance document
- Discussion on OSDU Transfer Format

- Review Rotating Error Model
   Covers magnetic surveys taken while rotating
  - Still 6-axis surveys same QC should be available
  - **Not** legacy axial sensor-only "continuous" surveys
  - Aims to cover specific errors that arise from rotation
- Initial proposed set of weighting functions in 2017
  - Additionally, magnitudes that approximate "MWD" surveys
- Work groups have since refined initial proposal
- "Release Candidate" error model shared in August

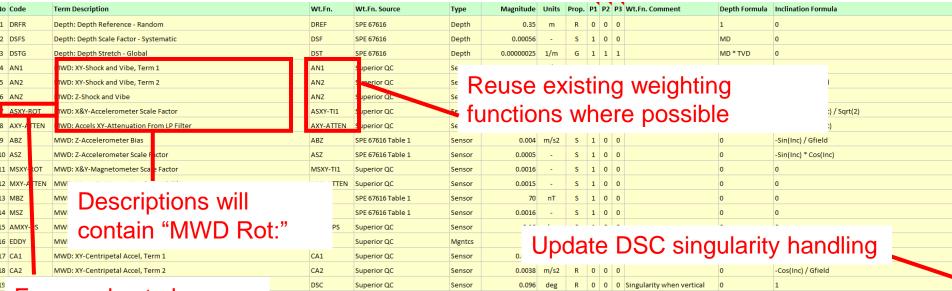
# Pathway to Release

- Update All Tool Error codes to include "ROT\_"
- Update descriptions to include "ROT" and link to error code
- Consolidate duplicated weighting functions
- Chad H. and Andreas R. to align on singularity value





# Final Tweaks to Rotating Survey Error Model



Error codes to be denoted "ROT"

# To Do: Update Documentation

- Create 1-page Guidance Document
  - Define error model scope (is / is not) and assumptions
  - Provide guidance for operator/vendor discussion
- Update error model definition document
  - Incorporate weighting function work from Chad and Andreas
  - Summarize working group decisions
- Generate updated diagnostics / Perform sanity checks



#### **OSDU** Collaboration

#### **Current Proposal**

- Need a format to standardize on error model exchange
- Kyle Rickey is proposing a JSON standard
  - Would not change content of existing error models
- Set up ISCWSA github for tracking / version control





The Industry Steering Committee on Wellbore Survey Accuracy (ISCWSA)

#### **Draft JSON Schema**

#### Define shared structure

- Common error names
- Weighting functions

Enable standardized transfer

Not for legacy models

```
"$schema"
                       "https://json-schema.org/draft-07/schema",
                       "https://github.com/iscwsa/error-models/blob/main/schema/schema.json",
                       "Error Model Schema",
                       "Provides validation of Error Models",
"markdownDescription" : "Provides validation of Error Models, See [iscwsa.net](https://www.iscwsa.
"properties": {
   "$schema": {
        "description": "The schema to use for validation",
    "meta": {
       "$ref": "meta.json"
    "parameters": {
       "$ref": "parameters.json"
        "description": "A list of applicable tags",
            "minLength": 1
        "uniqueItems": true
    "error_terms": {
        "description" : "Array of individual Error Terms",
        "items": {
            "$ref": "error-term.json"
       "minItems" : 1.
       "uniqueItems" : true
```



# Next Steps

#### Get Rotating Error Release finalized and published

- Working group on guidance document
- Engage with QA/QC sub-committee on operational considerations
- Consider similar documents for existing error models

### Working group on OSDU

Target delivery of Q1 2026

If you are interested in either group please reach out to me



# Future Meeting Fodder

#### Guidance on Improved RIP tests

- Rev 5 special concerns (Misalignments)
- Rotating vs. Static Comparisons

Mixed Mode Surveying

Dynamic Error Model Construction

QC integration with error models



#### Thank You!

#### **Questions / Discussion**