

Striving for Excellence: The Technical Maturity Model

Further Information...

Background to TMA's: E-A Design's Technical Maturity Model is adapted from the Capability Maturity Model (CMM) developed by the Software Engineering Institute in the early 90's. The CMM was originally developed as a tool for objectively assessing the ability of U.S. government contractors' processes to deliver a software project.

Maturity: The term "maturity" relates to the degree of formality and optimisation of processes; from ad-hoc practices, to partially defined and performed practices, to formally performed and managed steps which use metrics to drive performance, to the active optimisation of processes which are culturally embedded in the organisation.

Our Programme: We intend to publish the TMA programme to all staff who work in the E-A region very soon via E-A Design's KNet home page. In the meantime, if you have any questions about the programme please contact one of our Technical Discipline Leaders.

Technical Maturity Assessments (TMAs) have been introduced to MWH by EA Design to support its vision of "delivering quality, whilst striving for excellence." TMA's provide a mechanism for objective measurement of technical maturity as well as highlighting areas of excellence and opportunities for improvement. These assessments will be carried out by each discipline, in each office, by experienced technical professionals. Technical maturity is a measure of how effectively we do what we do. Is our approach to work disorganised and ad-hoc, undertaken without standard methods and processes, by inappropriately qualified staff who don't understand why they're doing what they're doing?... or is excellence culturally embedded, with technical outputs being delivered using proven and efficient processes, by appropriate staff and specialists seeking opportunities to innovate and further improve? Our Technical Maturity Assessments will help us answer these important questions and help us to focus our improvement efforts, manage risk and pursue excellence.

OUR TECHNICAL MATURITY MODEL: E-A Design's

Technical Maturity Model helps us assess the degree of maturity of our Technical Management practices/activities against four levels of maturity (Fig 1.0). For each maturity level we have defined a set of performance characteristics. These characteristics serve as a guide to our assessment teams as they work to determine our maturity rating.

Fig 1.0



WHAT IS A TECHNICAL MATURITY ASSESSMENT?

Designed to determine what level each discipline is at on the maturity model, the Technical Maturity Assessment focuses on finding areas of excellence, risk and opportunities for improvement. So that the outcome of each assessment is easy to understand and process, assessment findings are converted into a numerical score; a 'Technical Maturity Rating' (TMR). This is a number from 1 to 400 which corresponds to the maturity levels (1 to 4) of the maturity model.

THE ASSESSMENT APPROACH: Assessments will be undertaken across each technical discipline in each office. They are carried out by senior, experienced technical staff using a structured assessment process. Assessments will review 5 key areas (themes) relevant to the work of each discipline. The process is flexible and allows the assessor freedom to use their experience to home in on areas of risk and opportunity. A single assessment, by one discipline in one office will usually take one full day.

Fig 2.0

4 Maturity Levels	5 parameters of a "Mature Process"				
	Benefits	Who	When	Process	How - Expertise
4. Culturally Embedded	Seen a fundamental to success	Extended Team including external specialists	Metrics monitoring completion	Continuously Improving Process	Use of advanced tools and methods. Culturally embedded across E-A Design. Appropriate Metrics Used Standard Tools applied consistently. Not Ingrained across E-A Design. Some room for improvement
3. Formally Performed	All are aware of benefits	X-Functional or core team involvement	Performed consistently and on-time	Formal process drives performance	Some Skills Applied. Lots of room for improvement
2. Partially Performed	Some are aware of benefits	Functional Specialists	Performed inconsistently or late	Partial process - Not repeatable across projects	Little or No Expertise. No Tools
1. Not Performed	Not aware of benefits	Individual Heroics	Typically not performed	Process not defined	

The TMA's are programmed annually. This is to ensure each discipline is assessed in each active office once per year. Fig 2.0, our 'Maturity Assessment Matrix', shows the performance characteristics (parameters) which the assessor will reference when arriving at a 'Technical Maturity Rating'.

HOW WILL THE RESULTS BE USED? Assessment results are entered directly into a TMA teamsite. The Technical Discipline Leader will review the results and findings of each assessment and action accordingly. The TMR's will be averaged monthly and reported to the E-A Design Management team using a Technical Maturity Scorecard. For 2012 E-A Design has targeted an overall TMR of 300. This corresponds to 'delivering quality' in our vision, and 'Formally Performed' on the maturity model. A 'TMA Heat Map' is also being developed which will provide a visual interpretation of trends and hot-spots. The assessment team for each discipline will review their 'TMA Heat Map' quarterly and agree the actions necessary to ensure continued and sustainable improvement.

WHAT'S NEXT? These assessments are already underway and we'll communicate the assessment programme soon. As we begin to analyse and use the results we will issue further communications detailing how these assessments are being used to improve our technical performance.