

Predictive analytics used to capture a \$350M opportunity by an integrated circuit manufacturer

Background

Client situation

- One of the top-20 global semiconductor IDMs
- Designing next generation microcontroller for critical customer
- **Significant risks:** Perceived under-resourcing of R&D team, over-specification from unclear market requirements
- New management with a fresh perspective, wanted to validate the perceived risk
- Missing the deadline would mean completely losing the opportunity and damaging the client's position

Engagement objectives

- Assess feasibility of current plan to meet the critical deadline
- Develop a high integrity plan, with revised project scope, to meet the design-in window
- Find and fix risks which threaten on-time product delivery

Approach

Establish capability baseline

- Measured R&D performance of teams on 5 prior projects
- Used baseline to estimate schedule and resources for the new project

Schedule Risk Analysis

- Used baseline to estimate schedule and resources for the new project
- Confirmed that resources were insufficient and project would miss design-in windows by over six months

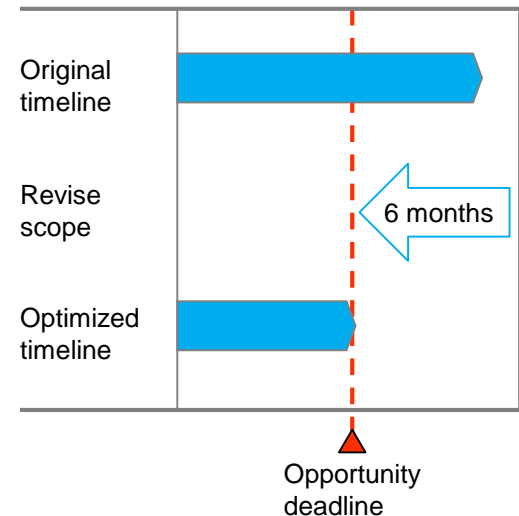
Analytics-based planning

- Since additional resources were unavailable, ran scenarios on potential different scopes
- Resolution was engineering switched strategy from first-time-right tapeout to two tapeouts:
 - First tapeout was subset of features necessary to prove concept and technology
 - Remainder of required features were included in 2nd tapeout

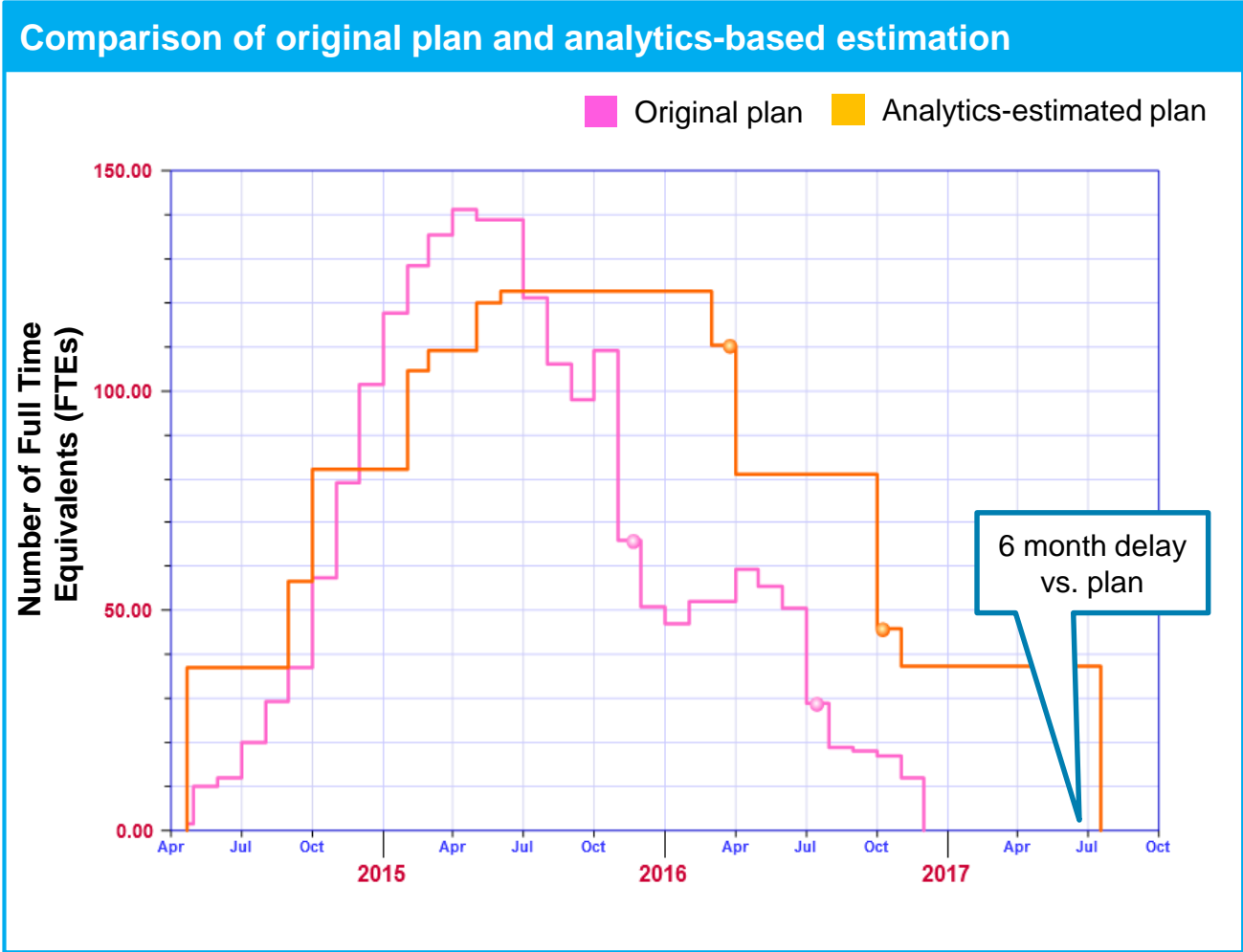
Impact

- \$350M annual revenue stream captured on new product
- Lead customer secured and credibility built for future business by meeting design-in window

Tape-out timeline



Analytics based estimation predicted a 6 months schedule slip Vs. original plan



- Analytics-based planning predicted a 6 month schedule slip with current project scope
- Several scenarios ,with different scopes and staffing levels were evaluated using “what-if” analysis