How Long - Duration

Computes a duration of time in the same period as the pace estimate (e.g. weeks, sprints) To turn this into a calendar date, you will need to add this to a start date (when known), and account for weekends, holidays, etc.

$$How\ long = \frac{Size \times Growth\ factor}{Pace}$$

Size – How Big

How much work required to deliver a feature or project

What is size?
The size argument is a range estimate of how much work is needed to fully deliver the value to customers of a feature or project.

What units can it be measured in?
The same units that actual delivery pace can be measured or estimated in.
Examples from "best" to "worst" -
- A count of work items (stories or epics)
- A sum of size buckets (low's, med's, high's)
- A sum of story points (points)
- A sum of times (hours or days or weeks)

How should it be estimated?
- As a range, not as an individual number
- With a goal the eventual actual falls within the estimate range.
- See the Size Assumption worksheet

Suggested actions -
- Use relative estimation. Lay out stories on a table and sort from left (smallest) to the right (hardest)
- Keep a record of prior completed feature story counts to calibrate new estimates
- Reflect during retrospectives why some estimates worked better than others

Growth (factors) – How Known

How much work gets added after starting the feature or project that must be completed

What is growth?
The growth factor argument is a range estimate of how much additionally discovered work is needed to deliver a feature or project.

What units can it be measured in?
The same units that size has been estimated in. Some growth applies to every item (multiplicative) and some is additional.
There are four basic types of growth -
- Time based (new ideas after we start)
- Rate Based (every item add 1 to 3 items)
- Scale Based (unit correction size & pace)
- Event based (risk of extra work)

How should it be estimated?
See the Growth Assumption Worksheet.

Suggested actions -
- Release more frequently to limit time based growth
- Keep a record of prior completed item rate based growth factors
- Be alert to how items have split from the backlog into delivered items. Its normal items split from 1 to 3 times as teams look at stories in detail.

Pace of Delivery – How Fast

How fast work is completed in a deliverable state

What is pace?
The pace argument is a range estimate of how much work is completed over a fixed period of time. E.g. stories per week, points per sprint.

What units can it be measured in?
The same units that size is estimated. Decide the time period these units are counted over. The smaller the period (day, week, month) the more granular forecast period can be computed.
There are normally three paces to consider -
- Ramp-up time – as the team form/learn
- Stride pace – the fastest consistent pace
- Ramp-down pace – as the team delivers

How should it be estimated?
See the Pace Assumption worksheet.

Suggested actions -
- Start with a range estimate, move to actual data after 7 to 11 samples
- Consider ramp-up time and ramp-down time. Pace often is half of the assumed stride pace for the first and last 20% project time
- Often it's easier to estimate the team's stride delivery pace and adjust down based on ramp-up and down impact