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WHITEPAPER

From Reports to Decisions

Ten Dashboards for Consulting Engineering Firms and the Data They Depend On

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Executive Summary

Canadian consulting engineering firms are busy and, by recent measures, profitable. Statistics Canada reports that the engineering services industry earned $46.8 billion in operating revenue in 2024, with an operating profit margin of 11.0%, the highest since 2014. The same release shows that salaries, wages, commissions and benefits made up 47.6% of operating expenses. In this business, most of what a firm spends goes to its people's time, so decisions about people are decisions about margin.

Those decisions are getting harder. ACEC-Canada's Engineering Business Sentiment Study for the first half of 2026 found that 81% of firms have at least one open position, that firms lost an average of 7% of staff to attrition over the previous year, and that the second and third top concerns of firm executives are both related to wages. When labour is scarce and costly, the gap between a firm that sees a staffing or budget problem early and one that sees it at month end becomes a gap in margin.

Most firms already hold the data they need to see these problems early. The difficulty is that it sits in separate systems: project plans in one place, time entries in another, budgets and invoices in a third, proposals in a fourth. Reports assembled by hand from these sources arrive late, disagree with each other, and are trusted by no one.

This paper describes ten dashboards, each illustrated with a sample built in Power BI, that answer the questions engineering firm leaders ask most often, grouped by the decision each one supports. It then sets out the data foundation those dashboards need, a practical order in which to build them, the limits of what dashboards can do, and how firms can start from pre-built dashboards rather than building from scratch. The paper is written for principals, COOs, CFOs and PMO leaders at firms of roughly 50 to 1,500 people. It assumes Microsoft Power BI as the reporting tool because many firms already license it, but the principles apply to any business intelligence platform.

1. Why reporting is harder than it looks at an engineering firm

1.1 Labour is the cost base

An engineering firm sells the time of skilled people. ACEC-Canada's 2025 economic assessment counts about 243,300 direct jobs in Canada's architecture and engineering services industry in 2024. Statistics Canada's 2024 figures put salaries, wages, commissions and benefits at $19.8 billion, nearly half of the industry's operating expenses. A firm that runs a discipline at the wrong level of utilization for a quarter, or lets a fixed-fee job overrun by a few hundred hours, feels it directly in its margin. That is why the most useful dashboards in this paper are about people and time before they are about revenue.

1.2 Demand is steady, supply is tight

ACEC-Canada's sentiment study reports a median backlog of eight months, with 64% of firms holding less than a year of work. Half of executives expect backlog to grow over the next twelve months, and 64% expect to hire more. At the same time, firms are carrying open positions and losing staff. A backlog that is steady in total can still hide a crunch in one discipline or one region, and that is precisely what an aggregate monthly report fails to show.

1.3 The data is there, but it is scattered

A typical mid-size firm keeps its project schedules in a planning tool or spreadsheets, time entries in a timesheet system, budgets and invoices in accounting software, and proposals in a CRM or a shared drive. Each system is accurate on its own terms. None of them agrees with the others on what a project is, which phase a timesheet line belongs to, or whether a proposal is likely enough to plan staff against. A dashboard built on top of that disagreement inherits it.

What this section does not claim. These industry figures describe the sector as a whole. They do not show that any particular firm is mismanaging utilization or budgets. Many firms run well on spreadsheets and experience. The argument here is narrower: as firms grow past the point where one person can hold the whole portfolio in their head, structured reporting becomes the cheaper way to see problems early.

2. Start with decisions, not charts

The most common reason a dashboard is ignored is that nobody owns the decision it informs. Before building anything, it helps to write down three things for each dashboard: **the question** it answers, **the person** who acts on the answer, and **the cadence** at which they look. A utilization dashboard reviewed weekly by discipline leads is a management tool. The same dashboard reviewed by no one in particular is decoration.

The ten dashboards below are grouped into four decision areas: where the portfolio stands, whether the firm has the right people at the right time, whether projects are making money, and what is coming next. Each description names the question, the core measures and the decision it supports.

3. The ten dashboards

3.1 Portfolio and status

Portfolio summary. The question is simple: what is the firm working on, and where is the weight of it? The dashboard shows active projects by client, sector, office, phase and contract type, with contract value and remaining fee alongside. Leadership and the PMO use it to see concentration risk, for example a large share of remaining fee tied to one public client or one transit program, and to decide where senior attention goes.

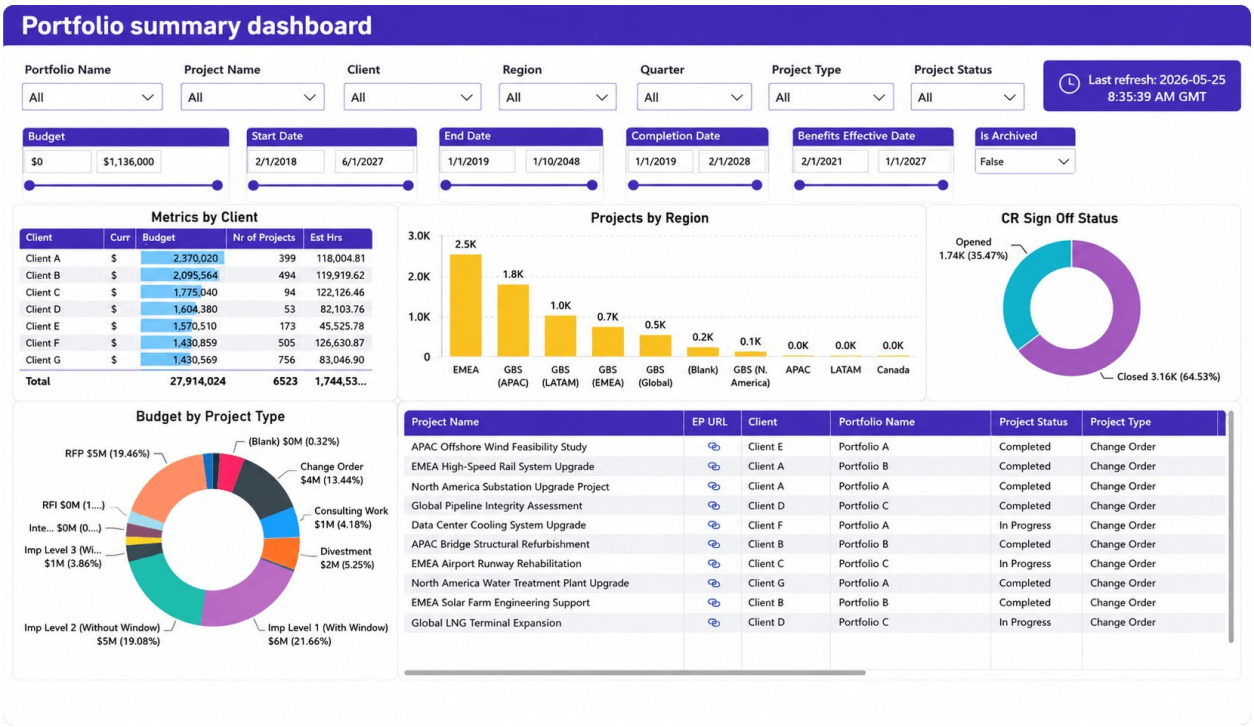


Figure 1. Sample portfolio summary dashboard in Power BI. Source: Birdview PSA.

Project status summary. This view answers which projects need attention this week. It shows each project's red, amber or green status on schedule, budget and scope, with the date of the last status update. The update date matters as much as the colour: a green project that has not been reviewed in six weeks is not green, it is unknown. The PMO uses this dashboard to set the agenda for project reviews.

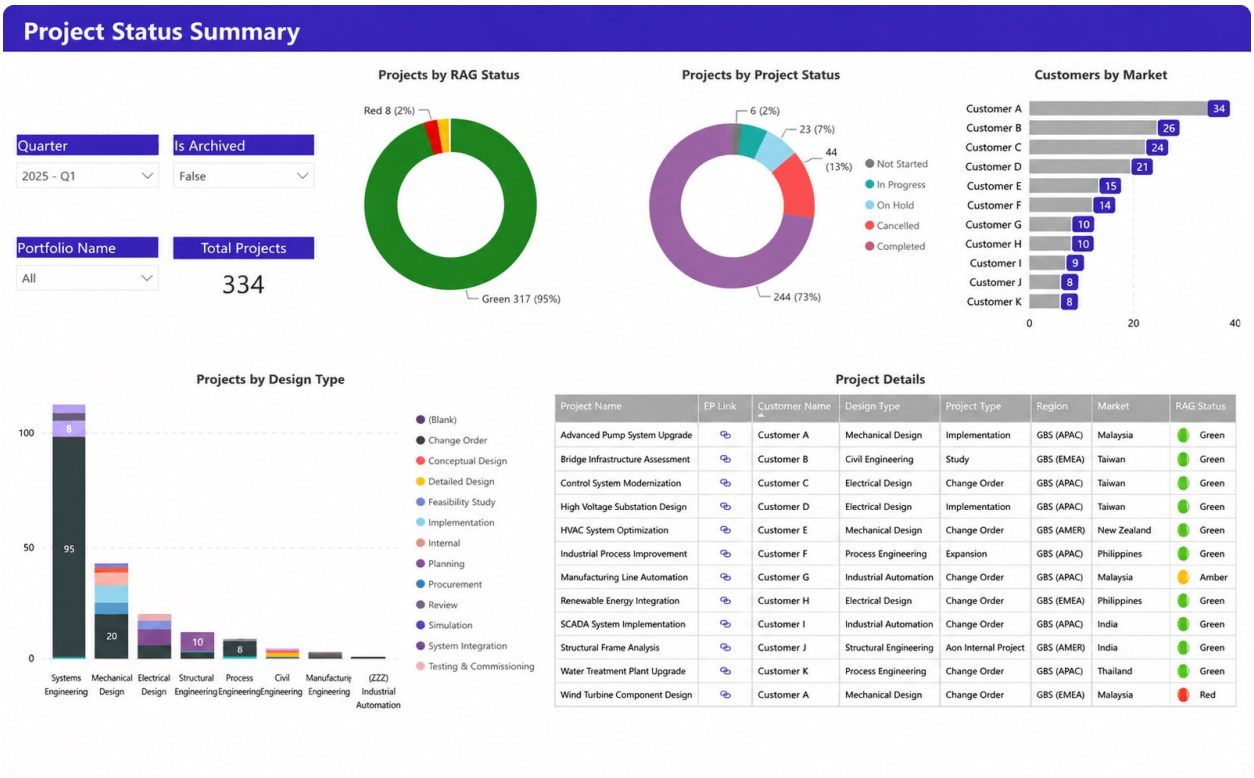
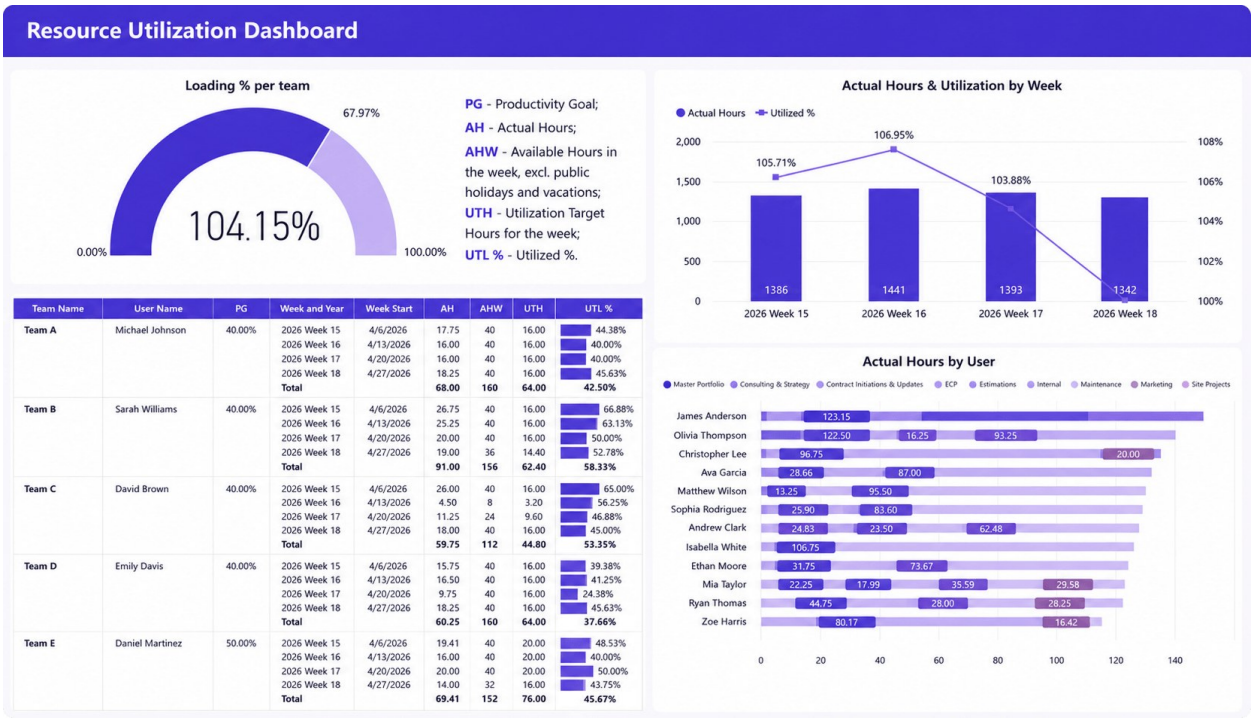


Figure 2. Sample project status summary dashboard in Power BI. Source: Birdview PSA.

3.2 People and capacity

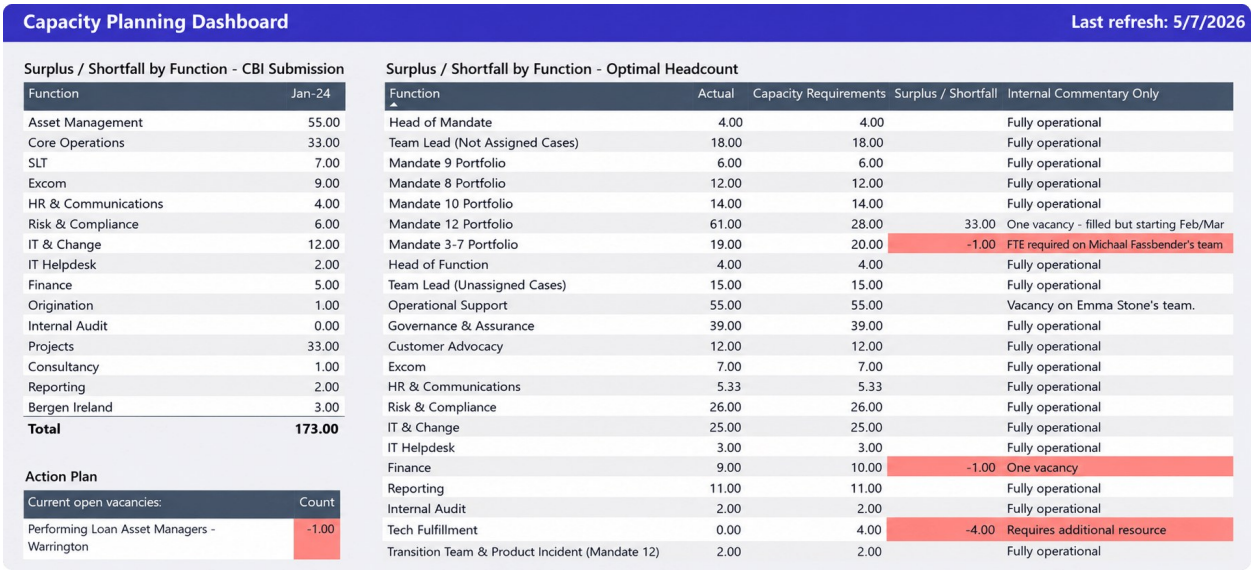
Resource utilization. The question is whether each team is working at a sustainable and profitable level. The core measure is utilization: billable hours divided by available hours, shown as actual against target by person, discipline and office. Targets should differ by role. A principal who sells and reviews work will not run at the same rate as an intermediate designer, and a single firm-wide target hides both overload and slack. Discipline and department leads use this weekly to rebalance work before it shows up as overtime or bench time.



Team Name	User Name	PG	Week and Year	Week Start	AH	AHW	UTH	UTL %
Team A	Michael Johnson	40.00%	2026 Week 15	4/6/2026	17.75	40	16.00	44.38%
			2026 Week 16	4/13/2026	16.00	40	16.00	40.00%
			2026 Week 17	4/20/2026	16.00	40	16.00	40.00%
			2026 Week 18	4/27/2026	18.25	40	16.00	45.63%
			Total		68.00	160	64.00	42.50%
Team B	Sarah Williams	40.00%	2026 Week 15	4/6/2026	26.75	40	16.00	66.88%
			2026 Week 16	4/13/2026	25.25	40	16.00	63.13%
			2026 Week 17	4/20/2026	20.00	40	16.00	50.00%
			2026 Week 18	4/27/2026	19.00	36	14.40	52.78%
			Total		91.00	156	62.40	58.33%
Team C	David Brown	40.00%	2026 Week 15	4/6/2026	26.00	40	16.00	65.00%
			2026 Week 16	4/13/2026	4.50	8	3.20	56.25%
			2026 Week 17	4/20/2026	11.25	24	9.60	46.88%
			2026 Week 18	4/27/2026	18.00	40	16.00	45.00%
			Total		59.75	112	44.80	53.35%
Team D	Emily Davis	40.00%	2026 Week 15	4/6/2026	15.75	40	16.00	39.38%
			2026 Week 16	4/13/2026	16.50	40	16.00	41.25%
			2026 Week 17	4/20/2026	9.75	40	16.00	24.38%
			2026 Week 18	4/27/2026	18.25	40	16.00	45.63%
			Total		60.25	160	64.00	37.66%
Team E	Daniel Martinez	50.00%	2026 Week 15	4/6/2026	19.41	40	20.00	48.53%
			2026 Week 16	4/13/2026	16.00	40	20.00	40.00%
			2026 Week 17	4/20/2026	20.00	40	20.00	50.00%
			2026 Week 18	4/27/2026	14.00	32	16.00	43.75%
			Total		69.41	152	76.00	45.67%

Figure 3. Sample resource utilization dashboard in Power BI. Source: Birdview PSA.

Capacity planning. Utilization looks backward; capacity looks forward. This dashboard compares booked and forecast demand against available hours by discipline for the next four to twelve weeks, and shows where a role is projected to run over or under. Its purpose is to give leaders time to act: to hire, to bring in a subconsultant, to resequence a job with a client's agreement, or to move a proposal date. Given the eight-month median backlog and the hiring difficulty described above, this is often the dashboard with the most direct effect on margin.



Surplus / Shortfall by Function - CBI Submission

Function	Jan-24
Asset Management	55.00
Core Operations	33.00
SLT	7.00
Excom	9.00
HR & Communications	4.00
Risk & Compliance	6.00
IT & Change	12.00
IT Helpdesk	2.00
Finance	5.00
Origination	1.00
Internal Audit	0.00
Projects	33.00
Consultancy	1.00
Reporting	2.00
Bergen Ireland	3.00
Total	**173.00**

Action Plan

Current open vacancies:	Count
Performing Loan Asset Managers - Warrington	-1.00

Surplus / Shortfall by Function - Optimal Headcount

Function	Actual	Capacity Requirements	Surplus / Shortfall	Internal Commentary Only
Head of Mandate	4.00	4.00		Fully operational
Team Lead (Not Assigned Cases)	18.00	18.00		Fully operational
Mandate 9 Portfolio	6.00	6.00		Fully operational
Mandate 8 Portfolio	12.00	12.00		Fully operational
Mandate 10 Portfolio	14.00	14.00		Fully operational
Mandate 12 Portfolio	61.00	28.00	33.00	One vacancy - filled but starting Feb/Mar
Mandate 3-7 Portfolio	19.00	20.00	-1.00	FTE required on Michaal Fassbender's team
Head of Function	4.00	4.00		Fully operational
Team Lead (Unassigned Cases)	15.00	15.00		Fully operational
Operational Support	55.00	55.00		Vacancy on Emma Stone's team.
Governance & Assurance	39.00	39.00		Fully operational
Customer Advocacy	12.00	12.00		Fully operational
Excom	7.00	7.00		Fully operational
HR & Communications	5.33	5.33		Fully operational
Risk & Compliance	26.00	26.00		Fully operational
IT & Change	25.00	25.00		Fully operational
IT Helpdesk	3.00	3.00		Fully operational
Finance	9.00	10.00	-1.00	One vacancy
Reporting	11.00	11.00		Fully operational
Internal Audit	2.00	2.00		Fully operational
Tech Fulfillment	0.00	4.00	-4.00	Requires additional resource
Transition Team & Product Incident (Mandate 12)	2.00	2.00		Fully operational

Figure 4. Sample capacity planning dashboard in Power BI. Source: Birdview PSA.

Billable versus non-billable time. This view shows how time divides between client work, proposals, internal projects, training and administration, by person and team. It answers a different question from utilization: not how busy people are, but what they are busy with. A rise in non-billable time in one office may mean a heavy proposal season, which is healthy, or a poorly scoped internal initiative, which is not. Operations leaders use it to tell the difference.

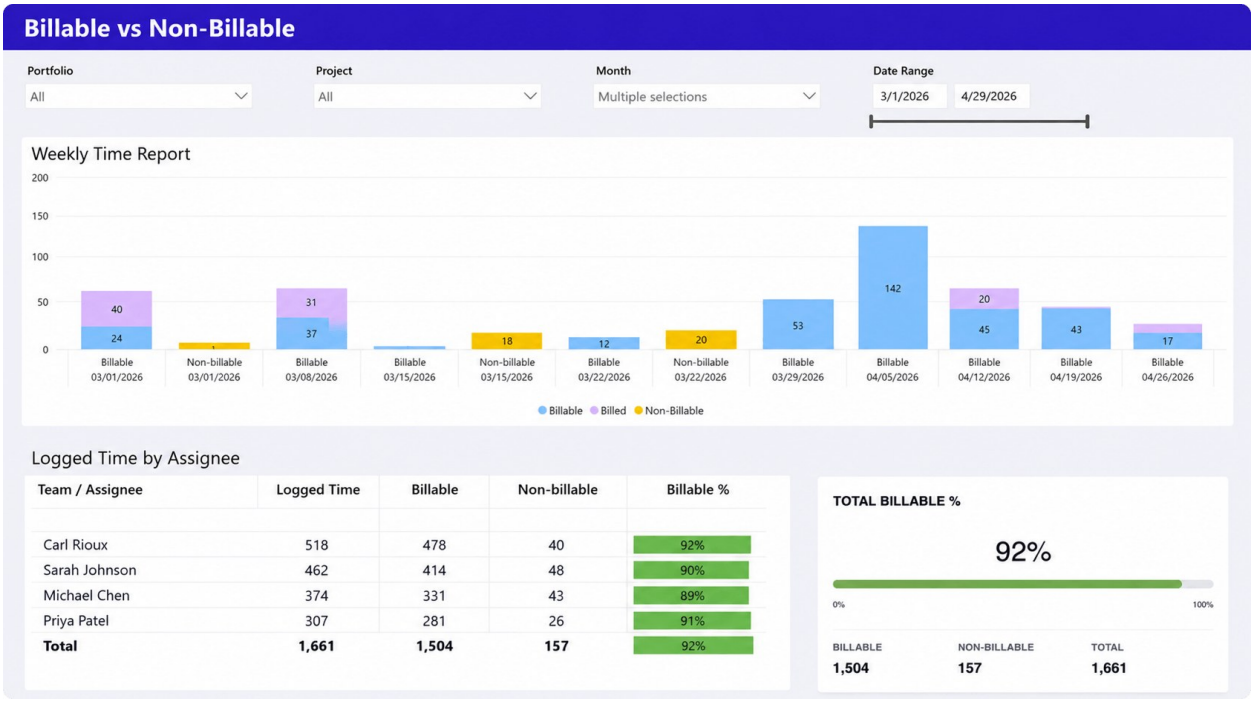


Figure 5. Sample billable versus non-billable time dashboard in Power BI. Source: Birdview PSA.

3.3 Project and financial performance

Project scorecard. For each project, the scorecard combines budget, actual cost, earned value, percent complete and schedule into one view. Two earned value indicators carry most of the signal. The cost performance index (CPI) is earned value divided by actual cost; below 1.0, the work done has cost more than planned. The schedule performance index (SPI) is earned value divided by planned value; below 1.0, the work is behind plan. Project managers and leadership use the scorecard to decide which jobs need a recovery plan or a conversation with the client about scope.

Earned value has a known limitation that is worth stating plainly. Early in a project, these indices can move sharply on small amounts of work, and a PMI paper on earned value cautions managers not to be "too hasty to demand corrective action" on early variances. The scorecard is most useful as a trend over several reporting periods, not as a single reading.

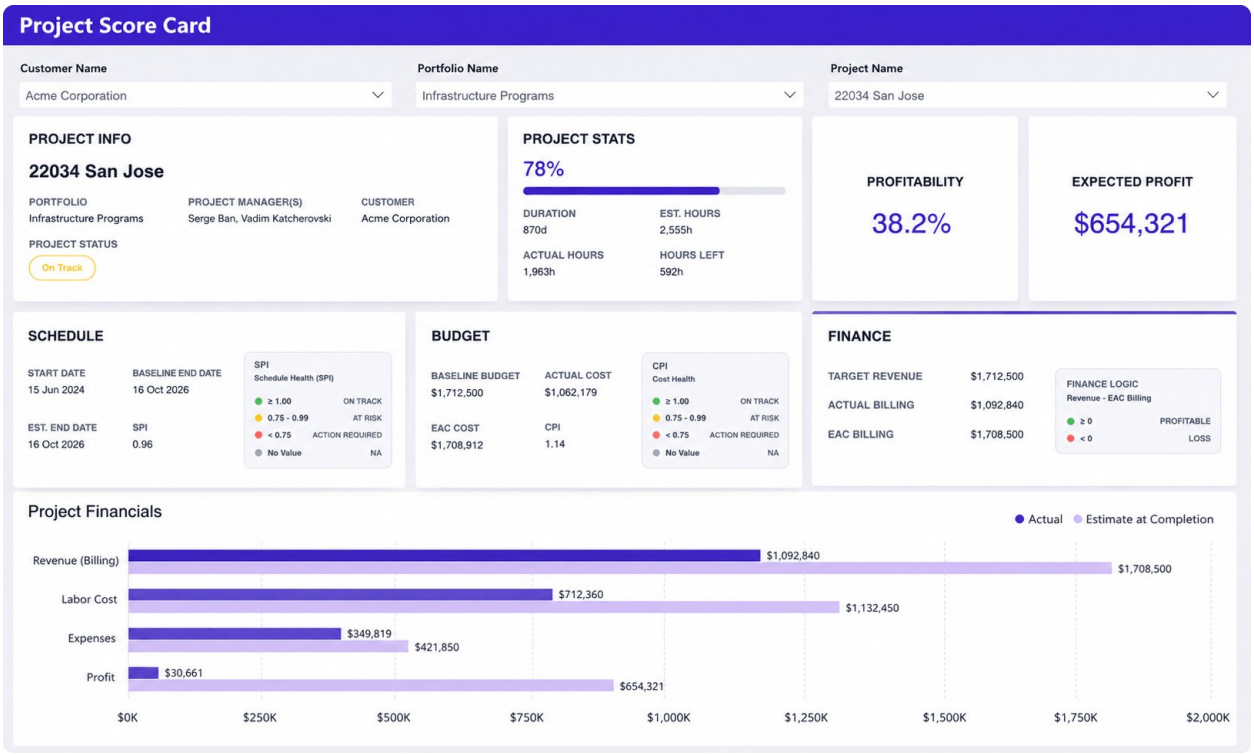


Figure 6. Sample project scorecard dashboard in Power BI. Source: Birdview PSA.

Revenue, cost and profit. This dashboard shows margin by project, client, service line and office, using the same cost rates and overhead allocation everywhere. It answers where the firm actually makes money. Firms are often surprised by the result: a long-standing client may be less profitable than it feels, and a small service line more profitable. Finance and leadership use it to guide pricing, pursuit decisions and where to grow.

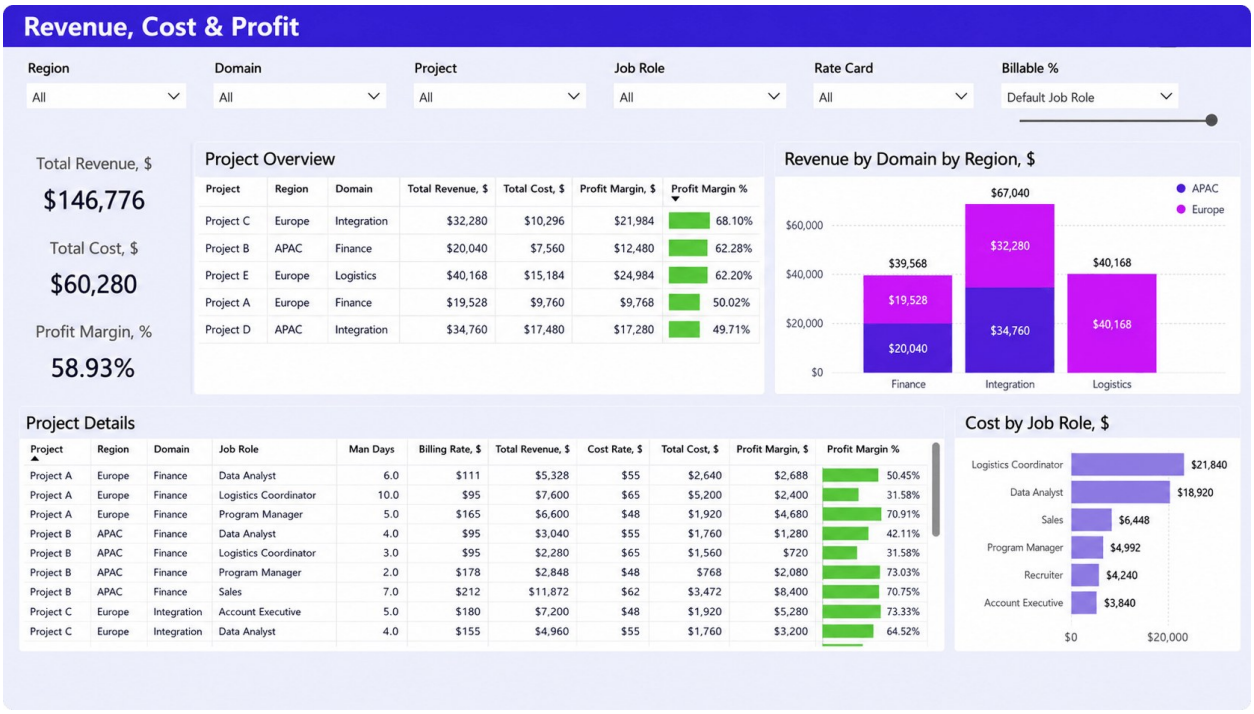


Figure 7. Sample revenue, cost and profit dashboard in Power BI. Source: Birdview PSA.

Actual and forecast cost against budget. This view adds a forecast to the budget comparison: actual cost to date plus the estimate to complete, set against the approved budget. A project that is on budget today but forecast to finish 15% over is a different conversation from one that is on budget throughout. Finance and project managers use it to catch overruns while there is still fee left to manage them, and to support change order discussions with evidence.

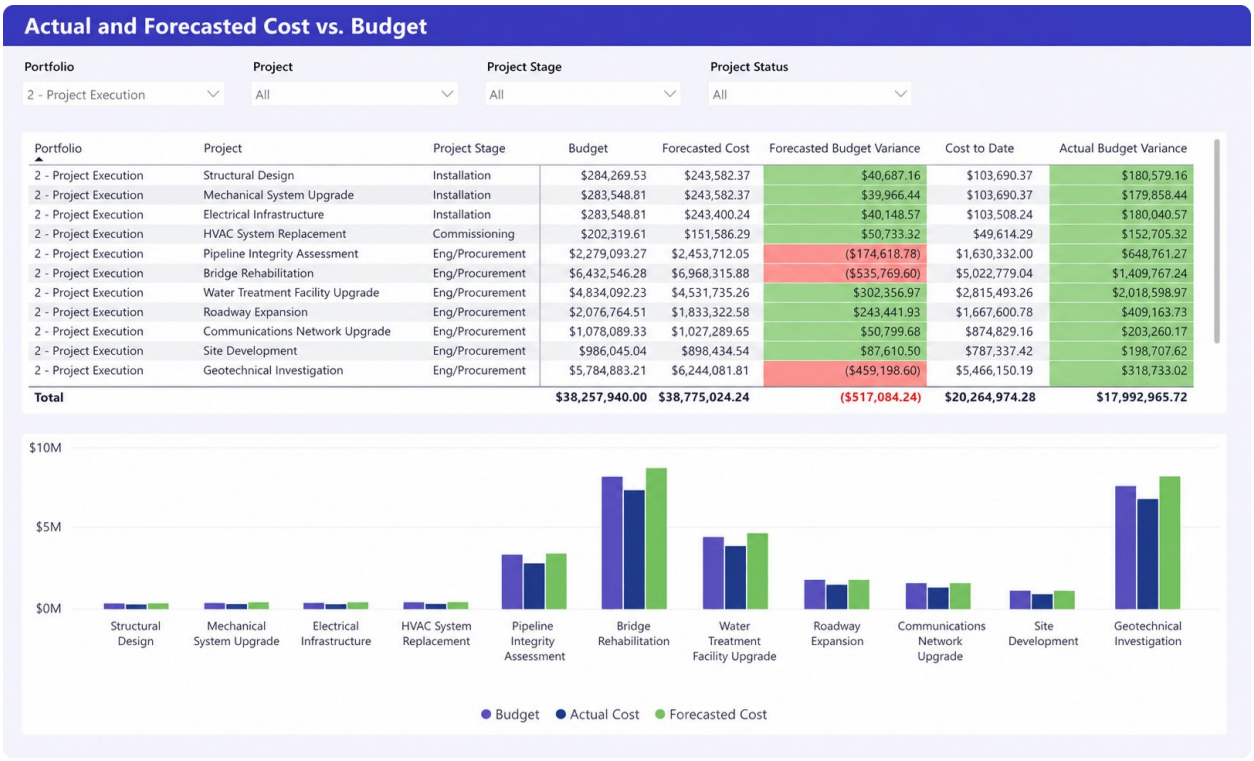


Figure 8. Sample actual and forecast cost against budget dashboard in Power BI. Source: Birdview PSA.

3.4 Growth and leadership

Business development. The question is what work is coming and whether the firm can staff it. The dashboard shows the proposal pipeline by stage, sector and expected start date, with win rates by client type and service line. Its most useful feature is the link to capacity: weighted pipeline converted into forecast hours by discipline. That link lets leadership see that a likely win in March will need three structural engineers the firm does not yet have.

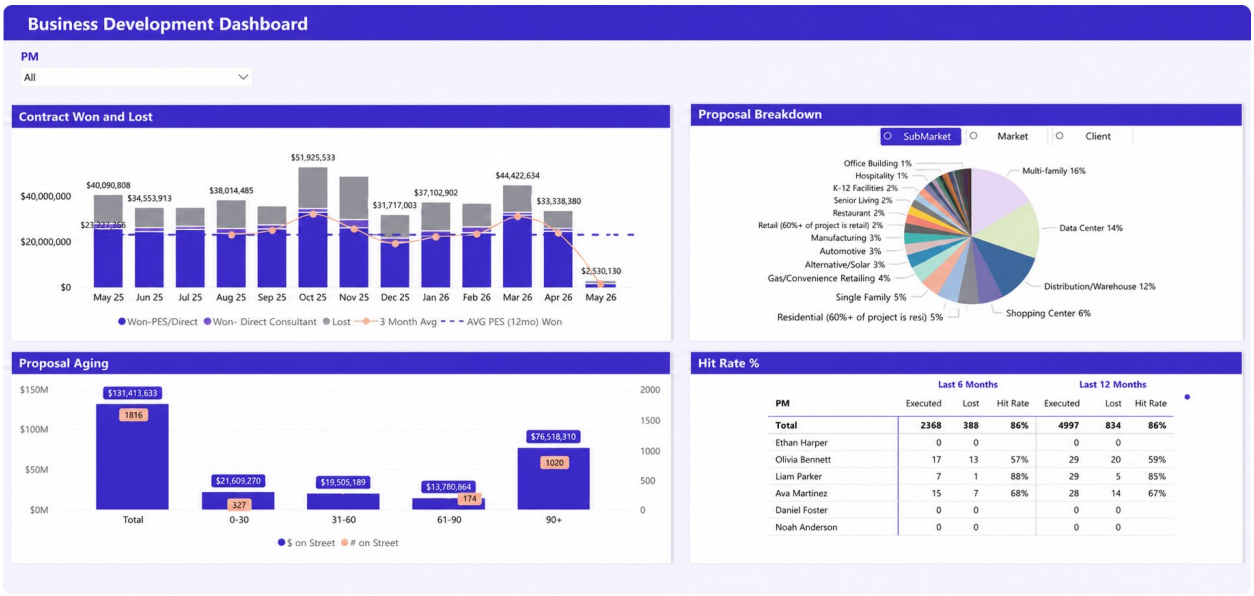
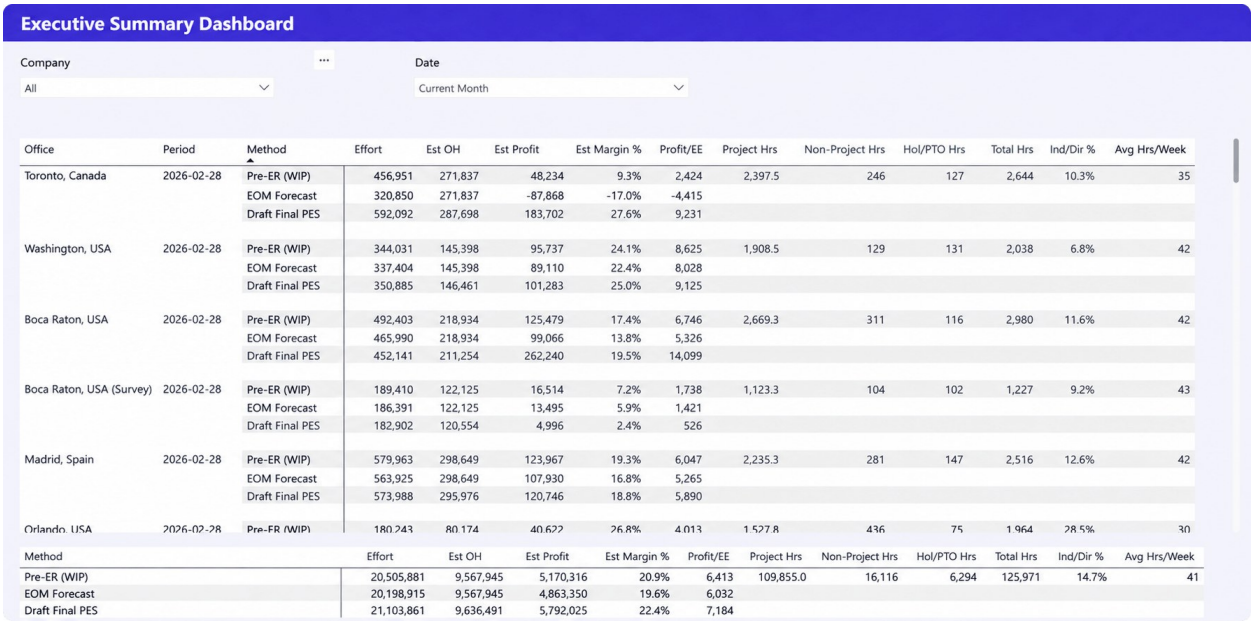


Figure 9. Sample business development dashboard in Power BI. Source: Birdview PSA.

Executive summary. This is the one-page view for the leadership team and, at some firms, the board. It pulls a small number of measures from the other nine: revenue and margin against plan, utilization against target, backlog in months, forecast capacity gaps, and the count of projects in amber or red. It is deliberately short. Its role is to tell executives which of the other dashboards to open, not to replace them.



Office	Period	Method	Effort	Est OH	Est Profit	Est Margin %	Profit/EE	Project Hrs	Non-Project Hrs	Hol/PTO Hrs	Total Hrs	Ind/Dir %	Avg Hrs/Week
Toronto, Canada	2026-02-28	Pre-ER (WIP)	456,951	271,837	48,234	9.3%	2,424	2,397.5	246	127	2,644	10.3%	35
		EOM Forecast	320,850	271,837	-87,868	-17.0%	-4,415						
		Draft Final PES	592,092	287,698	183,702	27.6%	9,231						
Washington, USA	2026-02-28	Pre-ER (WIP)	344,031	145,398	95,737	24.1%	8,625	1,908.5	129	131	2,038	6.8%	42
		EOM Forecast	337,404	145,398	89,110	22.4%	8,028						
		Draft Final PES	350,885	146,461	101,283	25.0%	9,125						
Boca Raton, USA	2026-02-28	Pre-ER (WIP)	492,403	218,934	125,479	17.4%	6,746	2,669.3	311	116	2,980	11.6%	42
		EOM Forecast	465,990	218,934	99,066	13.8%	5,326						
		Draft Final PES	452,141	211,254	262,240	19.5%	14,099						
Boca Raton, USA (Survey)	2026-02-28	Pre-ER (WIP)	189,410	122,125	16,514	7.2%	1,738	1,123.3	104	102	1,227	9.2%	43
		EOM Forecast	186,391	122,125	13,495	5.9%	1,421						
		Draft Final PES	182,902	120,554	4,996	2.4%	526						
Madrid, Spain	2026-02-28	Pre-ER (WIP)	579,963	298,649	123,967	19.3%	6,047	2,235.3	281	147	2,516	12.6%	42
		EOM Forecast	563,925	298,649	107,930	16.8%	5,265						
		Draft Final PES	573,988	295,976	120,746	18.8%	5,890						
Orlando, USA	2026-02-28	Pre-ER (WIP)	180,243	80,174	40,622	26.8%	4,013	1,527.8	436	75	1,964	28.5%	30

Method	Effort	Est OH	Est Profit	Est Margin %	Profit/EE	Project Hrs	Non-Project Hrs	Hol/PTO Hrs	Total Hrs	Ind/Dir %	Avg Hrs/Week
Pre-ER (WIP)	20,505,881	9,567,945	5,170,316	20.9%	6,413	109,855.0	16,116	6,294	125,971	14.7%	41
EOM Forecast	20,198,915	9,567,945	4,863,350	19.6%	6,032						
Draft Final PES	21,103,861	9,636,491	5,792,025	22.4%	7,184						

Figure 10. Sample executive summary dashboard in Power BI. Source: Birdview PSA.

4. Measures that hold up under scrutiny

A dashboard is only as credible as its definitions. Three measures cause most disagreements at engineering firms, and each is worth settling in writing before the first report is built.

Utilization. Agree on the denominator. Available hours can mean standard hours, standard hours less statutory holidays, or standard hours less all leave. Each choice produces a different number, and comparing offices that use different definitions produces arguments rather than decisions.

Percent complete. Earned value depends on it. Decide whether it is reported by the project manager, derived from hours, or tied to deliverable milestones, and apply the same rule across the firm. Subjective percent complete is common and acceptable, as long as everyone knows that is what it is.

Forecast accuracy. Track how far the capacity forecast and the cost-at-completion forecast moved between periods. A forecast that changes by 30% every month is telling leaders that the underlying plans are not maintained, which is useful information in itself.

5. The data foundation

5.1 Four domains, one definition of each

Every dashboard in this paper draws on four domains of data: **project structure and budgets** (projects, phases, tasks, contract type, fee), **people and capacity** (employees, roles, disciplines, cost rates, working calendars), **time** (hours by person, project, phase and date, billable or not), and **financials** (invoices, costs, payments). Proposals form a fifth domain for the business development view.

The single most important design rule is that each domain has one system of record. If a project's phase structure lives in a scheduling tool and a different phase structure lives in accounting, every report that joins time to budget will need manual mapping, and the mapping will drift.

5.2 Model the data for reporting

Microsoft's guidance for Power BI recommends a star schema: fact tables that record events, such as time entries or invoice lines, linked to dimension tables that describe the things being measured, such as projects, people and dates. Microsoft notes that this structure keeps queries fast and makes the model easier for report authors to navigate. For an engineering firm, a time-entry fact table at the grain of one person, one project phase and one day, joined to project, employee and date dimensions, supports most of the ten dashboards on its own.

5.3 Why dashboards fail

Failed dashboard projects tend to share a small set of causes: data drawn from several systems that disagree, manual extraction that delays every refresh, definitions that differ between offices, and dashboards built to display information rather than support a named decision. None of these is solved by better visual design. All of them are solved, or at least reduced, by fixing the data foundation first.

6. A practical sequence

Firms that try to build all ten dashboards at once tend to finish none. A more reliable order is to start with the three that pay back fastest and that test the data foundation most directly.

First, utilization, project scorecard, and capacity planning. Together they exercise all four data domains, and they address the decisions most affected by the labour conditions described in section 1. If these three cannot be built with trusted numbers, the problem is in the data, and it is better to find that out early.

Second, the financial views. Revenue, cost and profit, and actual and forecast cost against budget, depend on consistent cost rates and overhead allocation, which usually need finance to agree on rules first.

Third, portfolio, status, billable versus non-billable time, and business development. These are straightforward once the foundation is in place.

Last, the executive summary. It is assembled from the others and should be built only once its inputs are trusted.

7. What dashboards will not do

Dashboards make problems visible earlier. They do not make the decisions. A capacity dashboard that shows a structural team at 130% of capacity in March does not hire anyone or move a client's deadline. A scorecard that shows a CPI of 0.85 does not recover the fee. The value comes from the conversations and actions the dashboards prompt, which is why each one needs an owner and a cadence.

Dashboards also cannot be more accurate than the time entries, plans and budgets behind them. A firm where timesheets are submitted two weeks late will have utilization numbers that are two weeks late, however good the report looks. Improving reporting usually starts with small changes in daily discipline: timesheets submitted weekly, project plans kept current, and status updates made on a set day.

Finally, the ten dashboards in this paper are a starting set, not a standard. Firms in different sectors, from municipal water to transit to buildings, will weight them differently. The test for any dashboard is

the one set out in section 2: a clear question, a named owner, and a regular moment when someone acts on what it shows.

8. Starting from pre-built dashboards

The sequence in section 6 assumes a firm builds both the data foundation and the reports itself. That is a reasonable path for a firm with an in-house BI team and the time to model its own data. Many mid-size engineering firms have neither, and for them the slow part is getting four systems to agree before the first dashboard can be trusted.

The shorter path is to start from a platform where that foundation already exists. Birdview PSA keeps project plans, resourcing, time, budgets and invoicing in one system of record, so the four data domains in section 5 share one definition of a project, a phase and a person from the first day. On top of that data, Birdview includes more than 200 pre-built Power BI dashboards, among them working versions of all ten described in this paper. Figures 1 to 10 in section 3 are screenshots of them. A firm starts from a dashboard that already answers the question, then adjusts filters, targets and layout to its own practice, rather than modelling the data first and building the report second.

This does not remove the work described in section 7. Someone still has to own each decision and look at the dashboard on a set day, and the numbers are still only as current as the timesheets and plans behind them. What it removes is the months of reconciliation that usually come before a firm can find out whether its dashboards are worth acting on.

About Birdview PSA

Birdview PSA is a project, resource and financial management platform developed and headquartered in Toronto, Ontario, operating independently and profitably since 2004. Birdview is a Canadian-incorporated company. Customer data is hosted on Microsoft Azure Canada Central, the platform is SOC 2 Type II certified, and single-tenant private hosting is available.

Birdview brings project plans, resourcing, time tracking, budgets and invoicing into one system of record, which is the data foundation described in section 5. It includes more than 200 pre-built Power BI dashboards, among them the ten described in this paper, along with machine learning forecasting for capacity and demand. Engineering and architecture firms use Birdview to replace spreadsheets, desktop Microsoft Project and Microsoft Project Online, which retired on September 30, 2026. For a closer look at each dashboard, see Top 10 Power BI dashboards for engineering firms.

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Sources and further reading

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