actiPLANS

The Beginner's Guide to Project Resource Planning and Scheduling

Resources are business assets that lead projects and companies to success if utilized efficiently and intelligently.

Here are the three pillars of the resource planning and scheduling process to let you use the full resources' potential.

✅ **Ensure resource availability.** Without a proper schedule, some of your vital resources may be easily delayed, which could jeopardize the entire project.

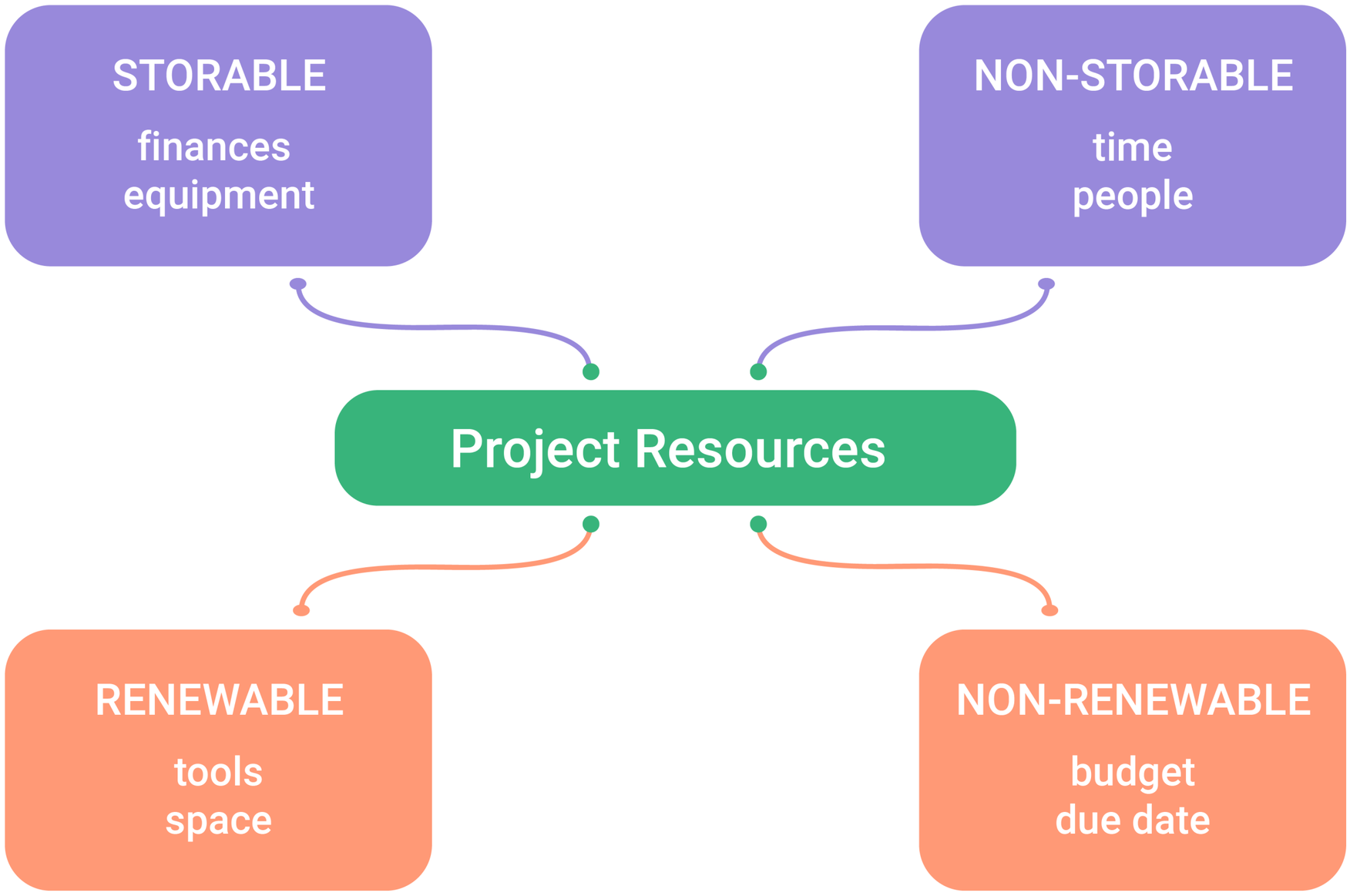
💰**Keep costs under control** by having a clear picture of what resources are required and when it is possible to optimize the use of resources and avoid costly waste.

🧘 **Maintain peace of mind.** Knowing that all the necessary resources have been accounted for can help reduce stress levels and allow everyone involved in the project to focus on their tasks.

In this free guide, we explain project resources and break down the essential planning and scheduling concepts and best practices to help you ensure resource availability and keep costs under control.

What Are Project Resources?

Project resources are assets required for successful project delivery. They can be storable (finances, equipment) and non-storable (time, people), renewable (tools, space), and non-renewable (project budget) – all these assets are required to carry out project tasks.



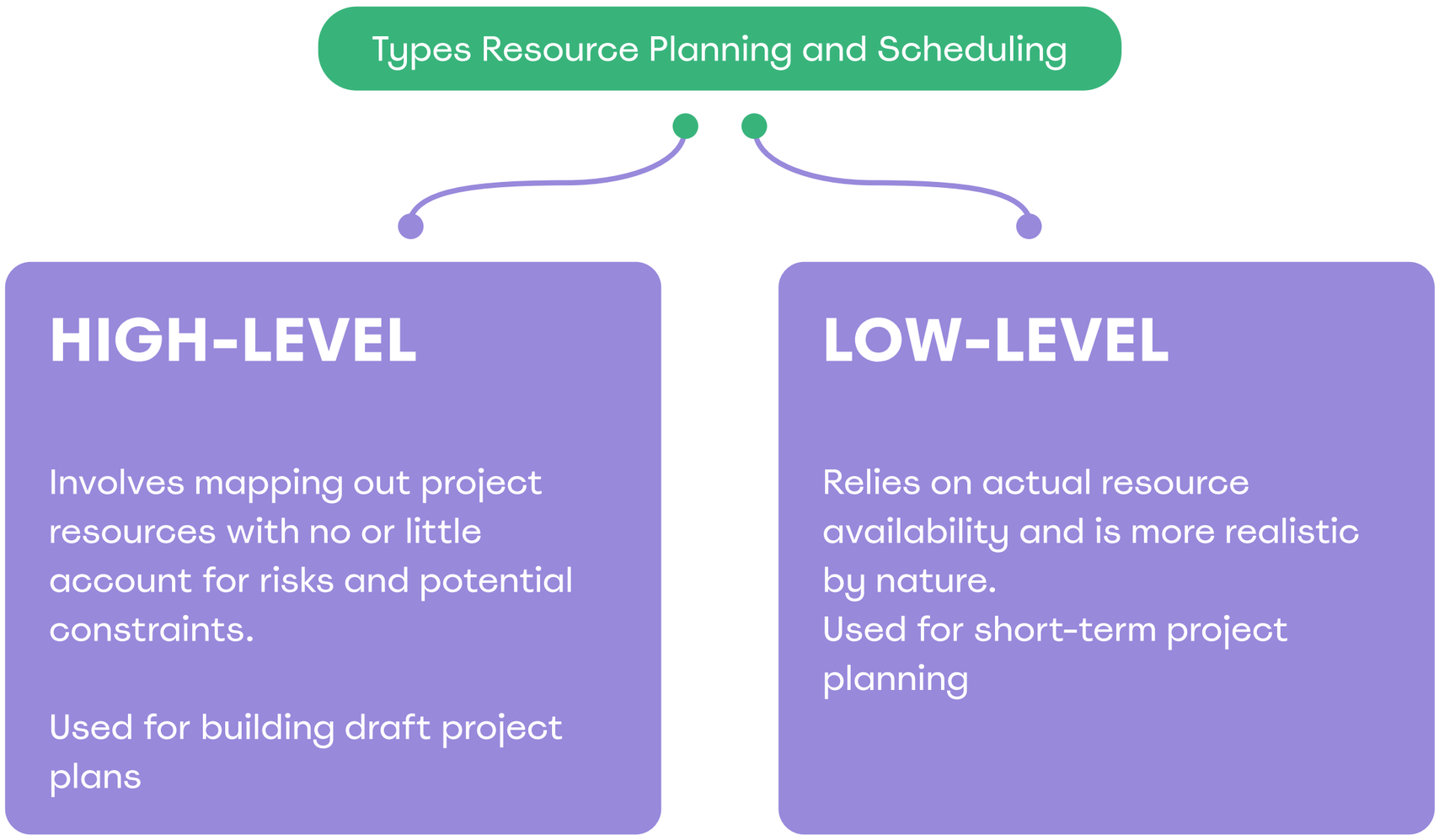
Lack of project resources can become a constraint on the completion of project activities; therefore proper resource planning and scheduling are key to successful project management.

Resource Planning and Scheduling Explained

Resource planning and scheduling is identifying the types and amounts of resources required for successful project delivery and allocating these to specific activities and tasks.

These can include everything from human resources, such as employees or contractors, to physical resources, such as office space or equipment.

The goal is to ensure that all the necessary resources are available when they are needed and utilized as efficiently as possible.



Resource Scheduling Methods

Project managers use three primary approaches for scheduling resources: time-constrained, resource-constrained, and cost-constrained resource scheduling. The choice between these approaches depends on the availability of resources.

Time-constrained resource scheduling	Resource-constrained resource scheduling	Cost-constrained resource scheduling
• Focuses on meeting project deadlines and delivering projects on time. • Prioritizes timely completion over resource availability or cost. • May involve hiring additional resources or reallocating existing resources to overcome schedule delays. • Can result in higher project costs due to the need for extra resources. • May lead to resource overutilization or burnout if not managed effectively. Fits for projects with fixed deadlines and when timely completion is crucial, even if it requires additional resources.	• Emphasizes resource availability and allocation in project scheduling. • Considers the limitations and constraints of available resources. • Aims to optimize resource utilization and minimize resource conflicts. • Prioritizes resource allocation based on their availability and skill set. • Can result in flexible project timelines to accommodate resource constraints. Fits for projects with limited resources or when resource availability is a critical factor.	• Takes into account the available budget for the project and ensures that resource allocation aligns with the financial constraints. • Aims to allocate resources in a manner that maximizes cost-effectiveness. • Involves close monitoring of resource costs to ensure they stay within the allocated budget. • May require trade-offs between resource quality, quantity, and cost. Fits for projects with a strong focus on optimizing costs while still achieving project goals.

In **time-constrained resource scheduling**, the priority is ensuring projects are delivered on time, even if additional project costs are required. For instance, if a project schedule is delayed, a project manager following this approach may hire extra workers to compensate and ensure the timely production of deliverables.

On the other hand, **resource-constrained resource scheduling** focuses on building the schedule based on the availability of resources. Unlike time-constrained scheduling, the emphasis is not solely on meeting strict deadlines but on aligning the schedule with the resources.

The choice between these approaches depends on the project's priorities, constraints, and the availability of resources.

Creating a Resource Schedule

Regardless of the approach you choose, some scheduling steps are inevitable.

Deliverables Review

Before scheduling resources for your project, you must familiarize yourself with existing project management deliverables.

Things to do

Explore the following:

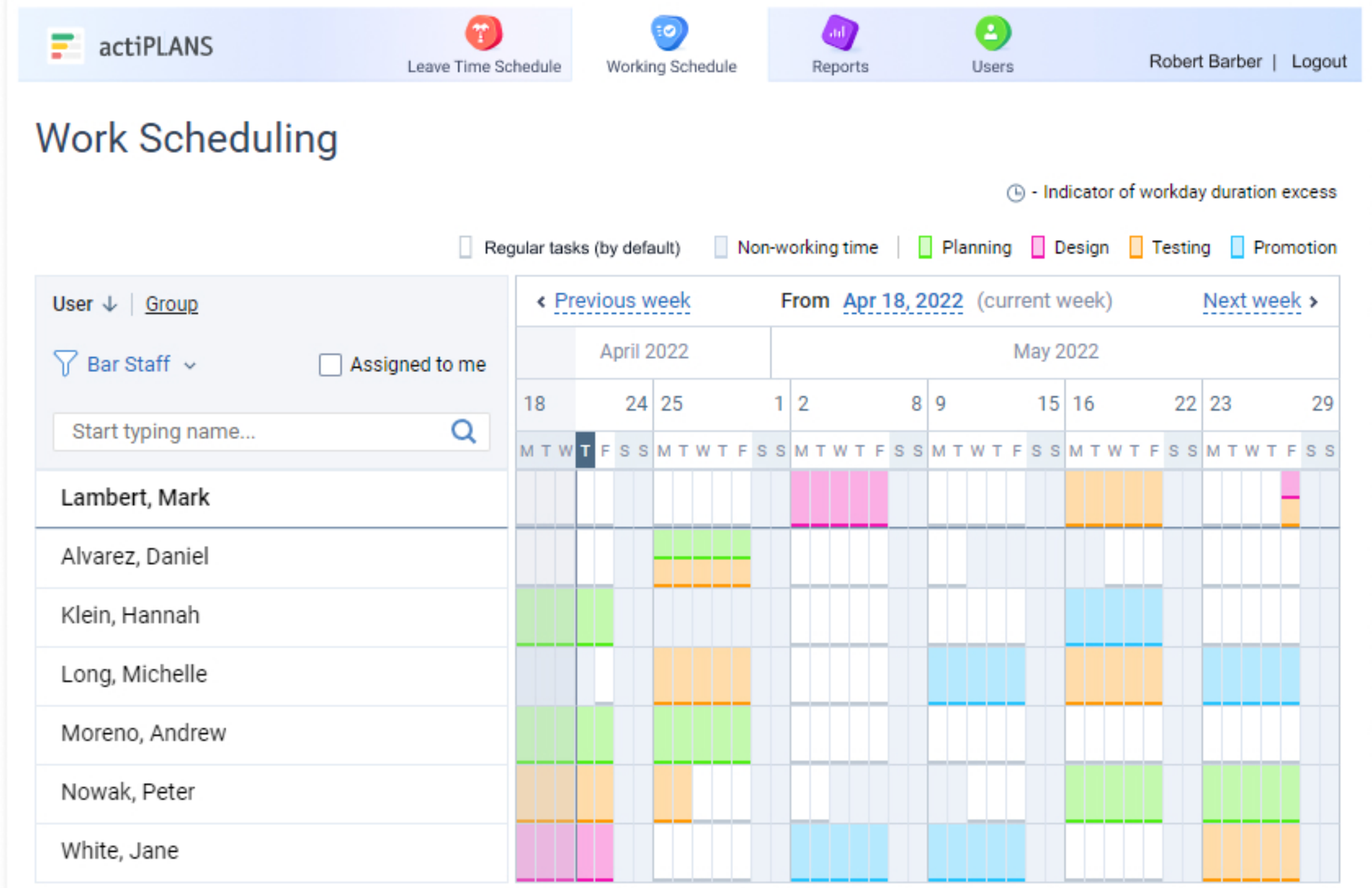
- Project charter that outlines high-level requirements of the project
- Work breakdown structure (WBS) that maps out project deliverables and required activities
- Project schedule
- Risk management plan

These deliverables will introduce you to the project, its schedule, risks, and requirements that clients and stakeholders have approved and that will be relied upon during the course of the project.

Learn more

Pro tip.
Leverage visualization.

actiPLANS lets you create custom types of work and then distribute them across employees on a beautiful visual timeline.



Capacity Planning

Capacity planning is determining the appropriate amount of resources needed to meet the demands of an organization. It ensures that a business can maximize its performance while meeting all customers' wants and maintaining operational efficiency without running into the dreaded "out of stock" nightmare or overexerting itself.

Step 1: Define expected demand

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Step 2: Estimate the required resource capacity

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Step 3: Measure your current capacity

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Step 4: Identify the capacity gap

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Step 5: Match resource capacity with demand

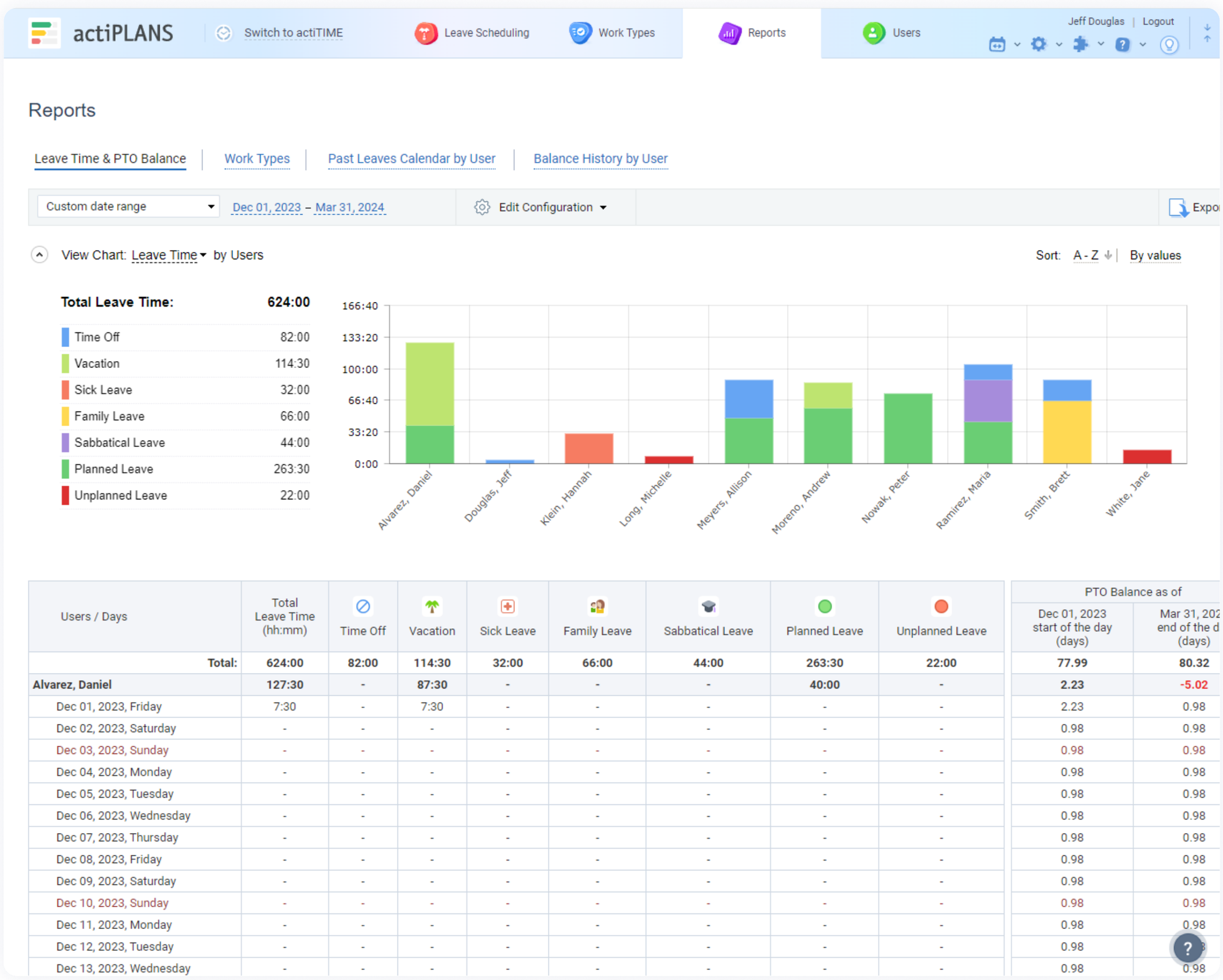
Things to do
Assess the overall work that can be accomplished with the existing resources within your organization.

- **Assess workforce.** Forecast employee availability, hiring needs, training plans, and budgeting salaries and benefits.
- **Plan space and equipment.** Forecast your business's growth and ensure you have the necessary premises and supplies to keep up.
- **Check software and hardware.** Forecast your IT needs, including network infrastructure, to keep things running smoothly.

Learn more

Pro tip.
Take varying employee availability into account.

actiPLANS displays employees' time off, making it easy to plan out work considering employee availability and ensuring that you have the right number of staff on hand to meet the varying demands of your business without over- or understaffing.



Users / Days	Total Leave Time (hh:mm)	Time Off	Vacation	Sick Leave	Family Leave	Sabbatical Leave	Planned Leave	Unplanned Leave	PTO Balance as of Dec 01, 2023 start of the day (days)	PTO Balance as of Mar 31, 202 end of the d (days)
Total:	**624:00**	**82:00**	**114:30**	**32:00**	**66:00**	**44:00**	**263:30**	**22:00**	**77.99**	**80.32**
Alvarez, Daniel	**127:30**	-	**87:30**	-	-	-	**40:00**	-	**2.23**	**-5.02**
Dec 01, 2023, Friday	7:30	-	7:30	-	-	-	-	-	2.23	0.98
Dec 02, 2023, Saturday	-	-	-	-	-	-	-	-	0.98	0.98
Dec 03, 2023, Sunday	-	-	-	-	-	-	-	-	0.98	0.98
Dec 04, 2023, Monday	-	-	-	-	-	-	-	-	0.98	0.98
Dec 05, 2023, Tuesday	-	-	-	-	-	-	-	-	0.98	0.98
Dec 06, 2023, Wednesday	-	-	-	-	-	-	-	-	0.98	0.98
Dec 07, 2023, Thursday	-	-	-	-	-	-	-	-	0.98	0.98
Dec 08, 2023, Friday	-	-	-	-	-	-	-	-	0.98	0.98
Dec 09, 2023, Saturday	-	-	-	-	-	-	-	-	0.98	0.98
Dec 10, 2023, Sunday	-	-	-	-	-	-	-	-	0.98	0.98
Dec 11, 2023, Monday	-	-	-	-	-	-	-	-	0.98	0.98
Dec 12, 2023, Tuesday	-	-	-	-	-	-	-	-	0.98	0.98
Dec 13, 2023, Wednesday	-	-	-	-	-	-	-	-	0.98	0.98

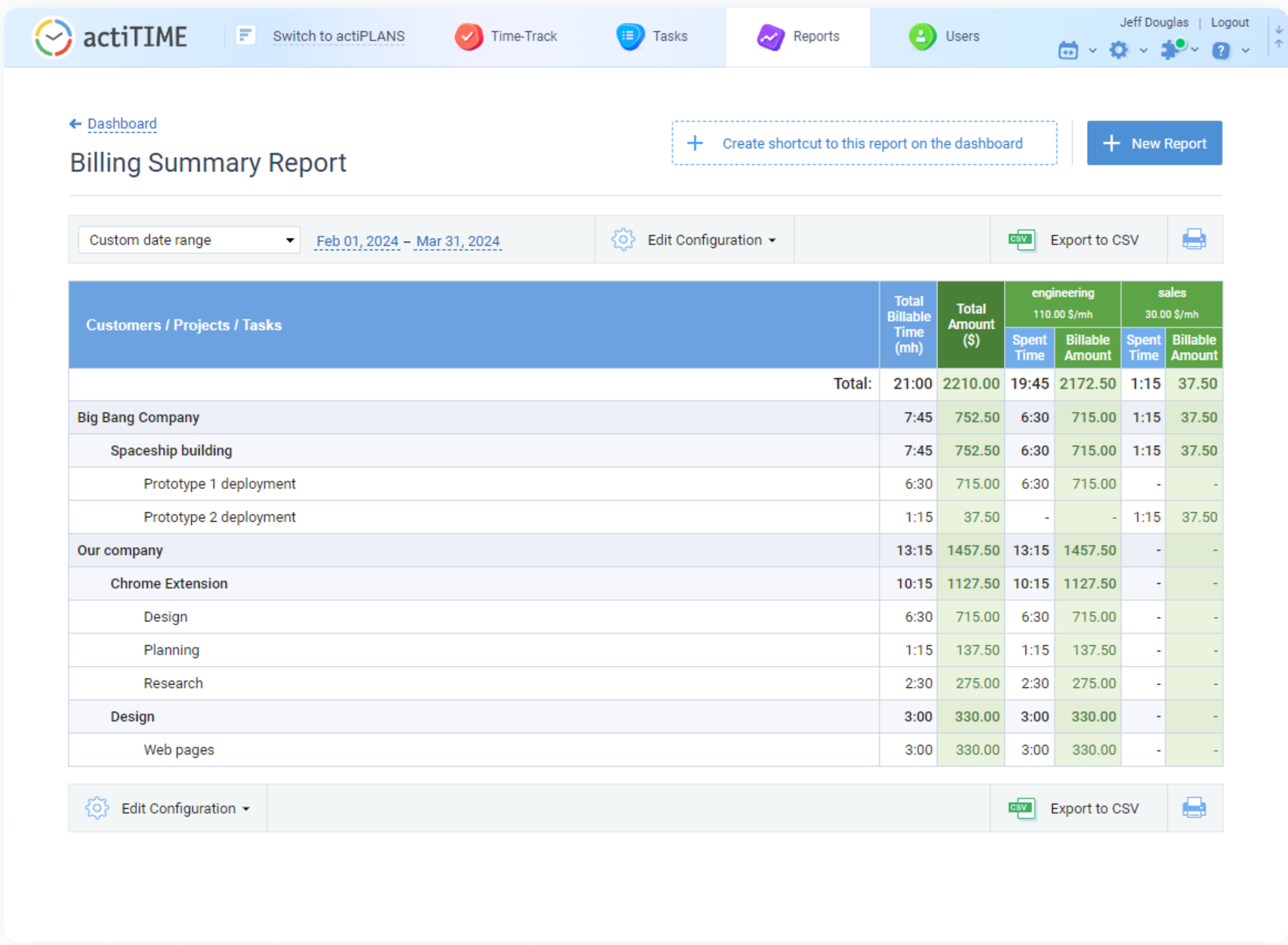
Estimation

Individual project activities also require estimation, otherwise, you won't be able to flow the project and ensure that your team delivers on time. So, if you don't have task estimates, priorities, and deadlines mapped out in your WBS or project schedule, you need to do it before project initiation.

Things to do
Collect historical data to calculate the time and effort needed to complete each task.
Learn more

Pro tip.
Use time-tracking software to automate data collection.

By integrating actiPLANS with actiTIME, you can overview the amount of time spent on tasks by teams and users and all the comments left by the latter when working on projects.



Customers / Projects / Tasks	Total Billable Time (mh)	Total Amount ($)	engineering 110.00 $/mh		sales 30.00 $/mh	
			Spent Time	Billable Amount	Spent Time	Billable Amount
Total:	21:00	2210.00	19:45	2172.50	1:15	37.50
Big Bang Company	7:45	752.50	6:30	715.00	1:15	37.50
Spaceship building	7:45	752.50	6:30	715.00	1:15	37.50
Prototype 1 deployment	6:30	715.00	6:30	715.00	-	-
Prototype 2 deployment	1:15	37.50	-	-	1:15	37.50
Our company	13:15	1457.50	13:15	1457.50	-	-
Chrome Extension	10:15	1127.50	10:15	1127.50	-	-
Design	6:30	715.00	6:30	715.00	-	-
Planning	1:15	137.50	1:15	137.50	-	-
Research	2:30	275.00	2:30	275.00	-	-
Design	3:00	330.00	3:00	330.00	-	-
Web pages	3:00	330.00	3:00	330.00	-	-

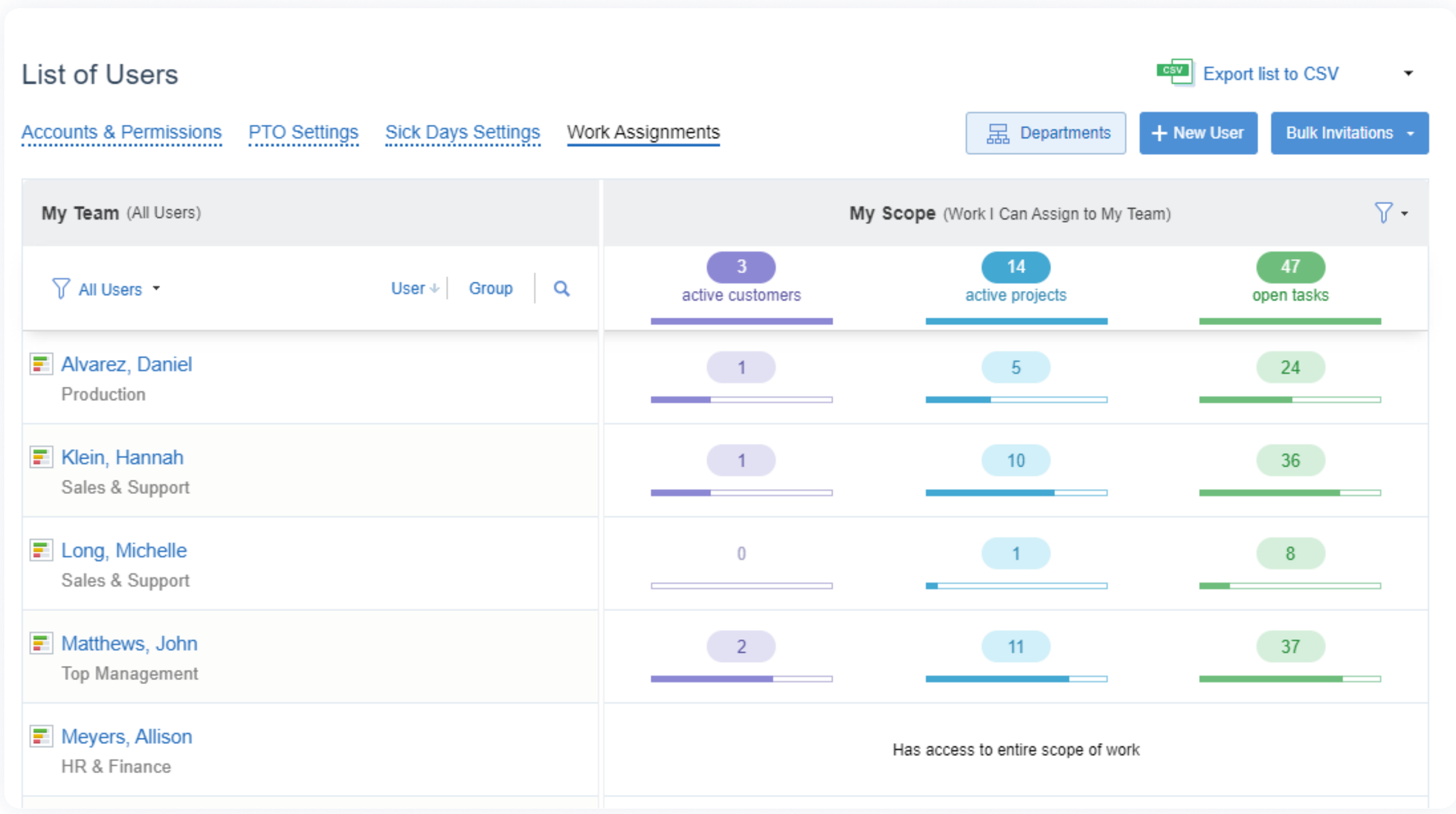
Workload Distribution

Once you have evaluated the resource capabilities, you must assign the right people to the right tasks based on their expertise and availability. To make your assignments reliable, use an accurate estimate of how long each of these tasks would take to complete.

Things to do
Combine estimates with employee attendance schedules to ensure no unattended task interruption will follow.

Learn more

Pro tip.
Keep an eye on employee attendance and availability.
actiPLANS offers the full functionality for managing work shifts, absences, statuses, and more.



Adjustment

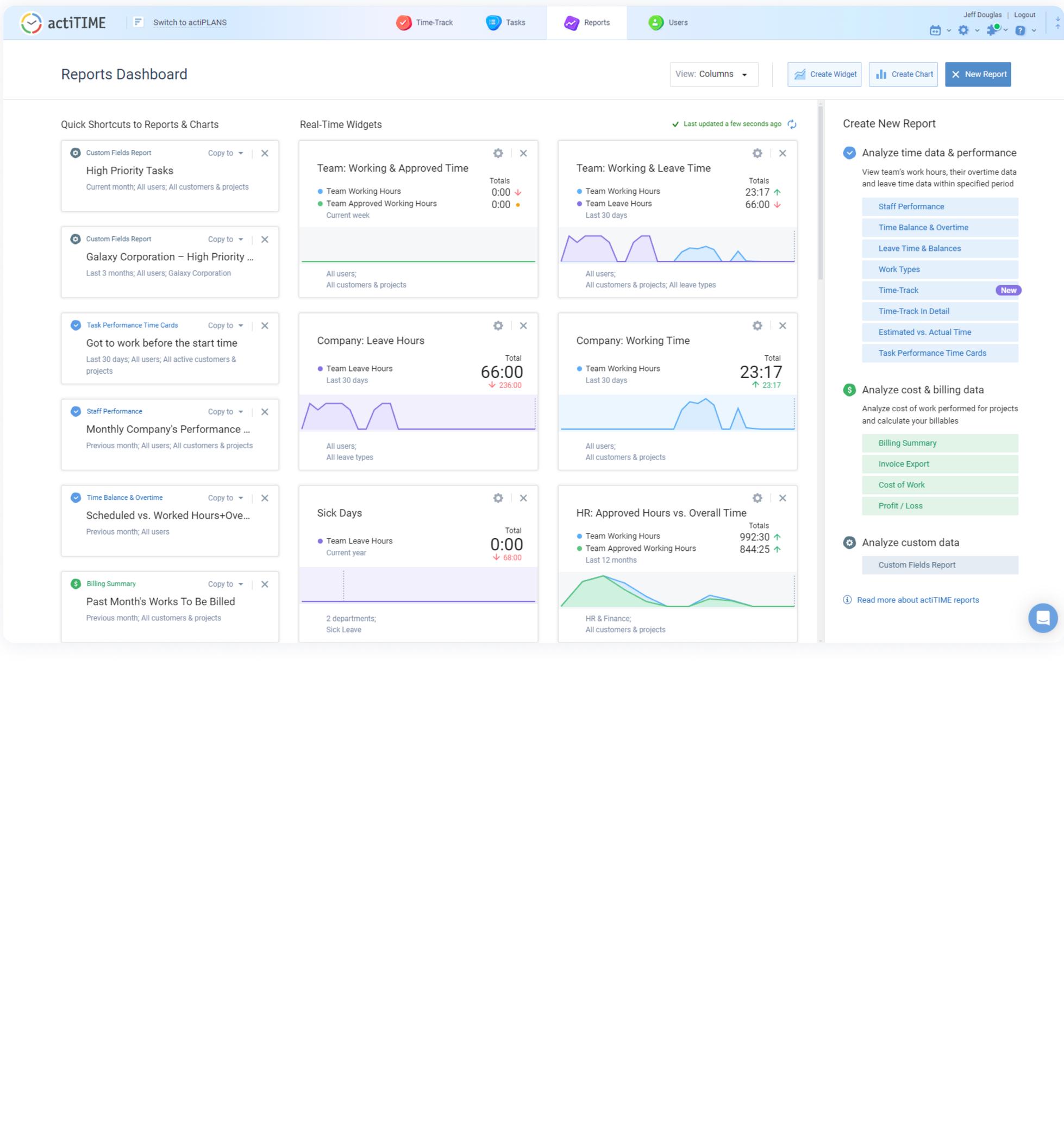
Hardly any project goes as planned. When project specifications get modified or project risks occur, it's essential that you take these circumstances into account and adjust continuously during the project.

Things to do
Monitor project progress and mitigate risks.

Learn more

Pro tip.
Pay special attention to critical project resources and implement a contingency plan early to minimize the negative consequences.

actiPLANS analytics reports allow for minimizing of attendance-related risks and actiTIME real-time widgets let you review employee performance, project costs, profits, and losses - all in a single place.



Post-Project Analysis

Post-project analysis is an essential project and resource management stage that helps you identify mistakes, learn from experience, and better manage future projects.

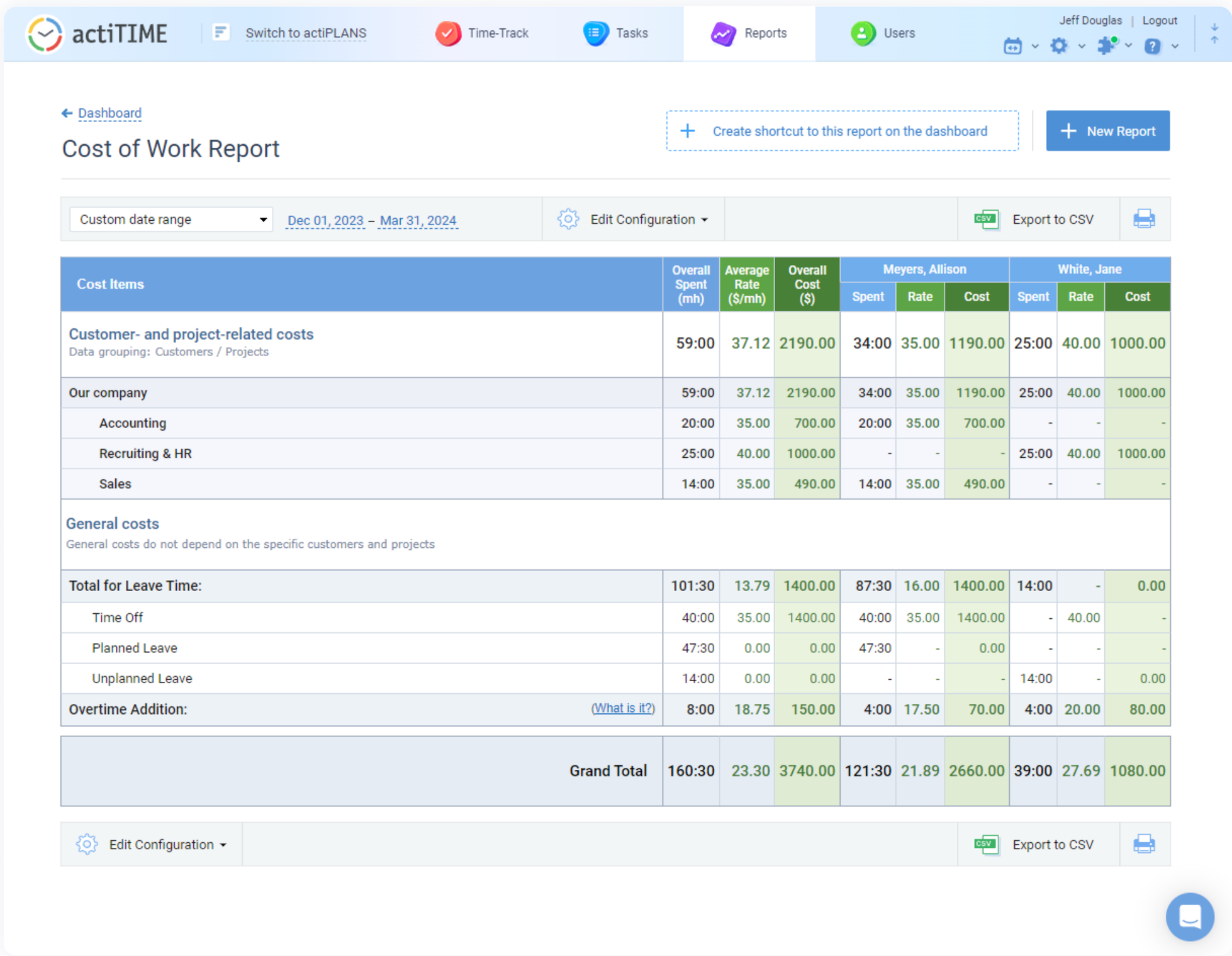
Things to do
Review how many resources you budgeted and compare them to resources that your project took to complete.

Learn more

Pro tip.
Make a list of questions like:

- Were you over or under hours?
- How do your project profits and losses stack up?
- What is the total cost of your work?
- Was your leave and work shift management effective?

actiPLANS and actiTIME integration lets you derive all the needed data in a few clicks.



Cost Items	Overall Spent (mh)	Average Rate ($/mh)	Overall Cost ($)	Meyers, Allison			White, Jane		
				Spent	Rate	Cost	Spent	Rate	Cost
Customer- and project-related costs Data grouping: Customers / Projects	59:00	37.12	2190.00	34:00	35.00	1190.00	25:00	40.00	1000.00
Our company	59:00	37.12	2190.00	34:00	35.00	1190.00	25:00	40.00	1000.00
Accounting	20:00	35.00	700.00	20:00	35.00	700.00	-	-	-
Recruiting & HR	25:00	40.00	1000.00	-	-	-	25:00	40.00	1000.00
Sales	14:00	35.00	490.00	14:00	35.00	490.00	-	-	-
General costs General costs do not depend on the specific customers and projects									
Total for Leave Time:	101:30	13.79	1400.00	87:30	16.00	1400.00	14:00	-	0.00
Time Off	40:00	35.00	1400.00	40:00	35.00	1400.00	-	40.00	-
Planned Leave	47:30	0.00	0.00	47:30	-	0.00	-	-	-
Unplanned Leave	14:00	0.00	0.00	-	-	-	14:00	-	0.00
Overtime Addition: (What is it?)	8:00	18.75	150.00	4:00	17.50	70.00	4:00	20.00	80.00
Grand Total	160:30	23.30	3740.00	121:30	21.89	2660.00	39:00	27.69	1080.00

The Final Note

Effective project resource scheduling plays a crucial role in project management. Attendance management and time-tracking software can be immensely beneficial in streamlining and enhancing this process.

Such software accurately tracks employee leaves and availability, provides real-time visibility into how the resources are spent, and allows to collect the data that can be used to analyze resource utilization, identify bottlenecks, and make informed decisions when allocating resources in future projects.