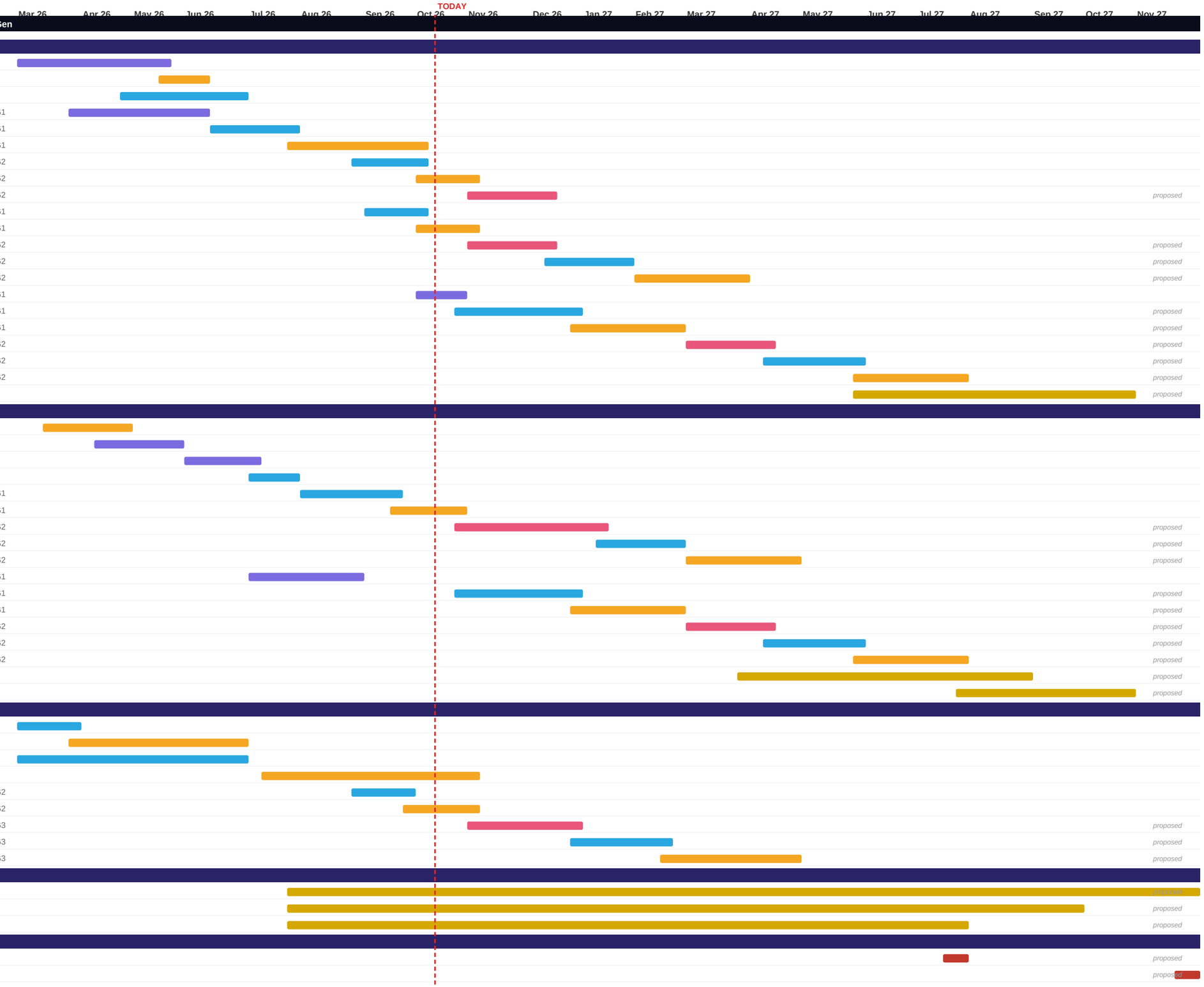
CERNAL roadmap, Mar 2026 to Nov 2027

Today: 13 Oct 2026. Weeks start on Monday; a bar shows in every week it overlaps. Source: team roadmap workbook.

Design · Build · Experiments · Analyse & redesign · Validate / platform · Milestone

Workstream / Task	Phase	Status	Gen
E. COLI – BIOSENSOR			
Design recreating control / basic chassis	Design	Done	
POC experiments	Experiments	Done	
Design and build novel controls	Build	Done	
Design mCherry toehold sensors	Design	Done	G1
Build first CERNAL toehold candidates	Build	Done	G1
CERNAL toehold candidates experiments	Experiments	Done	G1
Build second-gen toehold candidate constructs	Build	Done	G2
Second-gen toehold candidate experiments	Experiments	In prog.	G2
Toehold gates, iteration 2: analyse results and select best cand	Analyse	Planned	G2
Build NOT candidate constructs	Build	Done	G1
NOT candidate construct experiments	Experiments	In prog.	G1
NOT gates, iteration 2: analyse and redesign	Analyse	Planned	G2
NOT gates, iteration 2: build constructs	Build	Planned	G2
NOT gates, iteration 2: experiments	Experiments	Planned	G2
Design AND candidate constructs	Design	In prog.	G1
AND gates, iteration 1: build constructs	Build	Planned	G1
AND gates, iteration 1: experiments	Experiments	Planned	G1
AND gates, iteration 2: analyse and redesign	Analyse	Planned	G2
AND gates, iteration 2: build constructs	Build	Planned	G2
AND gates, iteration 2: experiments	Experiments	Planned	G2
PFOA biosensor: validation on industrial effluent samples and	Validate	Planned	
HEK293T (ENDOMETRIOSIS)			
Transfection calibration	Experiments	Done	
Find endometriosis gene candidates	Design	Done	
Design target endometriosis gene constructs	Design	Done	
Clone endometriosis genes	Build	Done	
Build endometriosis candidate switch constructs	Build	Done	G1
Endometriosis candidates: FACS experiments	Experiments	In prog.	G1
NOT switches, iteration 2: analyse and redesign	Analyse	Planned	G2
NOT switches, iteration 2: build constructs	Build	Planned	G2
NOT switches, iteration 2: FACS experiments	Experiments	Planned	G2
Design AND endometriosis candidates	Design	Done	G1
AND gates, iteration 1: build constructs	Build	Planned	G1
AND gates, iteration 1: FACS experiments	Experiments	Planned	G1
AND gates, iteration 2: analyse and redesign	Analyse	Planned	G2
AND gates, iteration 2: build constructs	Build	Planned	G2
AND gates, iteration 2: FACS experiments	Experiments	Planned	G2
Selectivity test in endometriosis-relevant cell models	Validate	Planned	
Replace the fluorescent reporter with a functional output (e.g. p	Validate	Planned	
YEAST (CRISPR)			
Marker switch sgRNA Cas9 preparations	Build	Done	
Marker switch sgRNA Cas9 experiments	Experiments	Done	
dCas-VP16 sgRNA preparations	Build	Done	
dCas-VP16 experiments	Experiments	In prog.	
Second-gen sgRNA preparations	Build	Done	G2
Second-gen sgRNA experiments	Experiments	In prog.	G2
sgRNA switch: analyse iteration 2 and plan optimisation	Analyse	Planned	G3
sgRNA switch, optimisation round: build constructs	Build	Planned	G3
sgRNA switch, optimisation round: experiments	Experiments	Planned	G3
PLATFORM & VALIDATION			
Systematic validation of all gate architectures: activation, leaka	Validate	In prog.	
CERNAL predictions vs measured gate performance	Validate	In prog.	
Manuscript: computational framework and experimental evalua	Validate	In prog.	
MILESTONES			
POCs complete: two gate iterations in cells	Milestone	Planned	
All gate architectures validated	Milestone	Planned	



Legend & notes

Legend

Phase (bar colour)

Design

Build

Experiments

Analyse & redesign

Validate / platform

Milestone

Source "Original plan" = the bars from the team Gantt (Mar to Nov 2026), dates read from the weekly columns, typos fixed.

Source "Proposed" = extension to Nov 2027 drafted for discussion: a second iteration of every gate in cells, then validation of all gate architectures.

G1 / G2 / G3 = gate iteration (generation). The figure for the video uses the same rows.

Weeks start on Monday. A bar shows in every week that overlaps its Start to End dates.

Blue text = inputs you can edit (Start, End, Phase). Status and the colours are formulas / conditional formats.

Original plan dates come from week labels, so a task that ran "1/4-7/4 to 22/6-30/6" is entered as 1 Apr to 30 Jun.

Not in the original sheet, to confirm with the team: all Proposed rows and the two milestones, including the effluent validation, endometriosis-relevant cell models, functional output, gate validation, model validation and manuscript bars.