

CONCEPT DOSSIER · NO. 01

ALL-ELECTRIC · 30 FT · SPORT RUNABOUT

ONE LINE, HELD

HULL 01

A 30-foot all-electric sport runabout. Low, fast, sleek — made to turn heads, and engineered so a yard could quote from it.

The vision and the engineering, braided into one object.

Two disciplines are laid across these pages so the eye can hold them at once: the form that turns heads, and the naval architecture that lets it be built. Every silhouette is drawn from a single blessed hull. Every number is carried verbatim from the engineering envelope.

Exterior & industrial design direction, working file.
Naval architecture & electric powertrain envelope, balanced baseline.
Concept program — not a production release.

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THE ARGUMENT

One line, held.

A sport runabout turns heads before anyone reads a single detail, because the silhouette does the work.

Electric is not a compromise to disguise. It is the reason the form can be this clean.

The client asked for one thing — low, fast, sleek, made to turn heads. That is not a style brief. It is a proportion brief. Riva's Aquarama, Frauscher's 858 Fantom, Candela's C-8, Wally's tender: none of them are "modern boats." They are single gestures. You read the whole vessel in one glance from a hundred metres, and only then walk up to discover the craft.

So the direction is one line, held. The sheer line is the argument; everything else is in service of it. Electric is not a compromise to disguise — it is the reason the form can be this clean.

No exhaust risers, no engine box breaking the aft deck, no vents cut into the topsides. The powertrain disappears below the sole, and the deck becomes an uninterrupted sculpture the way a combustion runabout never can. If a surface cannot justify itself as either function or the single sheer gesture, it comes off.

Everything that follows — the bow, the topsides, the cockpit, the transom — is drawn in service of that one line. The vessel should be legible in a glance from a hundred metres, and reward a hundred more up close. That is the whole discipline of this book: hold the line, and let the craft answer the second look.

Five ancestors. One inheritance.

The vessel is not a copy of any of these. It takes a single quality from each — a proportion, a discipline, a stance — and holds them under one sheer line.

RIVA AQUARAMA

The ancestor. Low freeboard, a sheer that drops toward a knife bow, mahogany warmth. We take the proportion and the intimacy of the cockpit — not the retro material.

FRAUSCHER 858 FANTOM

The closest living relative. Austrian precision, a sheer that runs unbroken bow to transom, a walk-around cockpit that feels architectural. Our nearest benchmark for stance and finish.

CANDELA C-8

The electric conscience. Aerospace restraint, nothing decorative. We borrow its quiet — but we keep the muscle in the shoulders a planing sport hull needs, that a foiler sheds.

RAND SUPERSPORT

Contemporary confidence. Broad usable beam, a social cockpit, a bow that means business.

WALLY

The stealth object. Low, wide, aggressive; the dark palette; the sense of a thing lying in wait on the water.

WHAT WE ARE NOT

A bowrider with a stereo tower. A centre console. A “sleek modern boat.” Nothing here is styled for its own sake.



PLATE I · FULL PROFILE

The sheer runs unbroken from a fine bow to a wide, low transom — the whole vessel read in one stroke.

A gentle reverse curve dips lowest at the cockpit and rises subtly forward for a dry, purposeful entry. Freeboard is deliberately low amidships: the vessel lies on the water, it does not sit on top of it.



PLATE II • BOW-ON, LOW STANCE

The planted, head-on read

FORM LANGUAGE

Sculpted, not decorated.

The bow & foredeck. A fine entry with a taut, sculpted foredeck that sheds toward the sheer. A single spine down the centreline gives the surface tension without breaking it. Ground tackle recessed under a flush hatch; no anchor-pulpit clutter, no visible windlass. The foredeck reads as one continuous carbon-composite surface, matte, so light runs down it cleanly.

The topsides. The single most important surface for turning heads — a long, unbroken hull side with one crisp character line at spray-rail height that catches light and stretches the vessel visually. It flares subtly at the shoulder near the bow, then runs straight and low aft.

Dark, deep, high-gloss hull; matte contrasting deck. The two-tone is what makes the sheer read from distance.

THE DECK STORY

The deck plane is never interrupted by hardware standing proud.

Four moves, laid across the sheer, forward to aft. Every hatch flush, every cleat pop-up or recessed — the electric powertrain below the sole is what lets the deck stay one continuous surface bow to transom, the way a combustion runabout, with its engine box and vents, never can.

01

FOREDECK SUNPAD

Flush, forward of the windscreen. Kept clean, register-dependent.

02

WRAPAROUND COCKPIT

Amidships, the social heart. Seatback is the interior of the sheer.

03

AFT SUNPAD

Over the battery/motor bay, lifting on gas struts for service access.

04

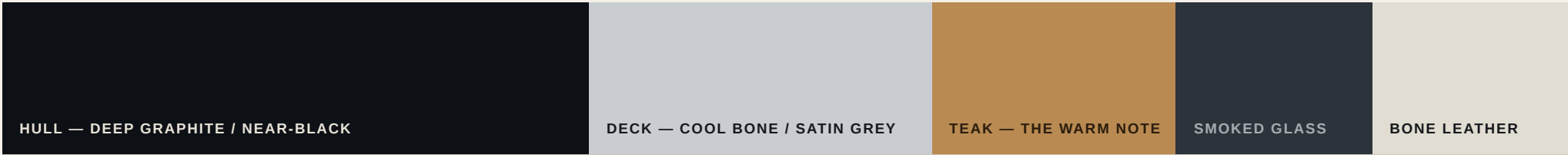
SWIM PLATFORM

Full-beam at the transom. Every hatch flush; every cleat pop-up or recessed.

THE PALETTE

Two cool tones, one warm note.

That discipline is what separates a designed object from a styled one. Restraint is the whole point: the deck reads separately from the hull, and the tonal break itself draws the sheer line.



Hull	Deep graphite / near-black high-gloss — reads near-black at distance, reveals its colour only in raking light	The mass, the reflection
Deck & topside	Cool bone / satin grey, matte	Draws the sheer by contrast
Decking	Natural teak, swim platform and cockpit sole	The single warmth
Hardware	Dark-anodised / brushed alloy — jewellery, used sparingly	Restrained
Glass	Smoked dark, frameless, curved	The horizontal band
Upholstery	Warm bone technical leather, subtly quilted	Cockpit softness



PLATE III · COCKPIT & DECK

The interior you sink into.

A single-level wraparound cockpit sunk into the deck. Bench seating follows the sheer line's curve — the seatback is the interior of the sheer. A helm to starboard, minimal: a single tempered-glass console, a low sculpted wheel, a horizon of dark screen. No dashboard clutter.

The windscreen is a low, frameless wraparound blade of curved glass — present enough to break the wind, invisible enough not to interrupt the profile. Low-sheen technical leather in warm bone, quilted to catch the light.



THE ELECTRIC DIVIDEND, MADE VISIBLE

A transom you can live on.

A wide, low, near-vertical transom. Because there is no engine and no exhaust, it is free to become a clean bathing platform — teak decking flush to the waterline. This is the electric dividend made visible: the space a combustion boat spends on machinery, this one gives back to the people aboard.

PLATE IV · STERN & TRANSOM

No exhaust risers. The powertrain lives below the sole; the aft deck is uninterrupted.

Full-beam swim step. The clean electric flex — a living platform where an engine box would sit.

And here the vision hands off to
the engineering.

THE BUILDABLE SPINE →

PART TWO

The buildable spine.

Every load-bearing figure that follows is grounded in Savitsky planing-hull physics or a real, verified production component — and carried verbatim from the naval-architecture envelope. Where a number was a choice, the client chose **balanced**. That is the boat.

Principal dimensions · Weight budget · Powertrain · The honest envelope · Buildability

WHERE THIS BOAT SITS

Anchored to real craft you can buy this year.

Three production electric craft in this exact size class anchor every figure. Each was verified on the maker’s own current pages. The X Shore Eelex 8000 is our closest true analog — a planing electric day boat of almost identical class, with a range table its maker publishes and stands behind.

THE REFERENCE SET

CRAFT	LOA	WEIGHT	BATTERY	DRIVE
X Shore Eelex 8000 CLOSEST ANALOG	26.2 ft	2,600 kg	126 kWh	170 kW
Frauscher 858 Fantom Air	28.4 ft	~2,500 kg	petrol ref	261 kW
Candela C-8 FOILING — SHOWN FOR CONTRAST	27.9 ft	1,750 kg	69 kWh	50 kW
Rand Escape 30	30.4 ft	—	110 kWh	150 kW

Candela is included only to be honest about the one technology that beats these numbers: hydrofoils. A foiling hull lifts clear of the water above ~16 kt and its drag collapses. We are briefed for a planing sport runabout, not a foiler, so we carry a planing hull’s honest physics.

PRINCIPAL DIMENSIONS

LOA	30 ft 0 in 9.14 m
LWL (waterline)	~26 ft 6 in 8.08 m
Beam (max)	8 ft 6 in 2.59 m
Beam (chine)	~7 ft 8 in 2.34 m
Draft (drive down)	~2 ft 6 in 0.76 m
Draft (planing)	~1 ft 4 in 0.41 m
Hull depth (amidships)	~4 ft 2 in 1.27 m
Deadrise (transom)	20°
Deadrise (amidships)	~23°

At 8’6” beam the boat is exactly at the US legal road-trailer width limit — deliverable by trailer, which matters to a yard’s logistics and a buyer’s storage. Widening the beam has a real off-water cost.

On an electric boat, a step is free range.

Chosen: a moderate-to-deep-V warped planing hull, 20° transom deadrise, with a single longitudinal step under the aft third.

A single step ventilates the aft planing surface, cutting the wetted area at speed. On a petrol boat a step buys 3–5 kt of top speed for the same power. On an **electric** boat that same drag reduction is spent as **range** instead. This is the single most important hull decision for an electric sport boat.

On a gas boat you add power to beat drag and never think about it. On an electric boat every square foot of wetted surface at 25 kt is drawn directly from a finite kWh bank. **Hull efficiency is the range spec.**

SEMI-DISPLACEMENT

Rejected on register. Most efficient per mile, but wallows at the speeds a sport runabout is bought for. The wrong boat for the brief.

CLASSIC DEEP-V (22–24°)

Softest, driest ride; the Riva lineage. But the most drag on plane — paid straight out of the battery.

STEPPED PLANING V — CHOSEN

20° transom deadrise: deep enough for a composed ride and a low, planted stance; not so deep it taxes the battery like a 24° offshore V.

WEIGHT BUDGET — HALF-LOAD DISPLACEMENT

Bare hull + deck structure	1,150 kg
Battery pack (126 kWh)	780 kg
Motor + drive + inverter	260 kg
Running gear	90 kg
Interior, upholstery, hardware	320 kg
Systems (house, pumps, nav)	120 kg
Tankage, ground tackle	60 kg
Light-ship subtotal	2,880 kg
Crew + gear (3 persons)	355 kg
Half-load displacement	≈ 3,235 kg

7,130 lb — the number the range table is computed against.

~24%

Battery is ~24% of light-ship mass. That is the electric boat's defining fact — a quarter of the whole vessel is energy storage, and it is the one number the whole envelope pivots on.

EVERY COMPONENT IS A REAL, VERIFIED PRODUCTION CLASS

126 kWh LFP. 800 volts. A single drive. Nothing invented.

CHEMISTRY — LFP, NOT NMC. CHOSEN DELIBERATELY.

AXIS	LFP	NMC
Energy density	~160 Wh/kg	~200 Wh/kg
Thermal safety	very high	moderate
Cycle life	3,000–6,000	1,500–2,500
Cost per kWh	lower	higher
Cold behavior	slightly worse	slightly better

On a boat, the NMC weight saving (~120 kg here) is not worth the fire risk and the halved cycle life. A sealed marine hull is the worst place for a thermal runaway. Evoy's DNV-approved packs — IP67, liquid-cooled, 3,000 cycles — are the verified reference. We spec two 63 kWh modules: the exact capacity X Shore ships for this class.

126kWh

LFP BATTERY

~180kW

CONTINUOUS / 450 PEAK

MOTOR — SINGLE ~180 KW CONT. / ~450 KW PEAK

Verified reference: the Evoy Storm inboard delivers 222–225 kW continuous, 450 kW peak on 800 V, sized for 25–35 ft single-install boats. The Eelex 8000 runs a single 170 kW motor and hits 30 kt. Our balanced boat sits between: ample for a confident 28–30 kt top end, with instant-torque hole-shot — 0–20 kt in ~4–5 s.

ARCHITECTURE — 800 V, SINGLE INBOARD SHAFT DRIVE

800 V over 400 V: lower current for the same power means thinner cabling, less resistive loss, DC fast-charge headroom to ~200 kW. A single drive, not twins — one ~180 kW unit is lighter and more efficient than two smaller ones, and range is king.

CHARGING — MANUFACTURER'S OWN MEASURED TIMES

SOURCE	POWER	0 → 100%
Home / dock AC	22 kW	~6 hr
Fast AC (dual)	40 kW	~3.5 hr
DC fast (shore)	75 kW	~1.75 hr
DC fast (high)	150 kW	~55 min

Plug in overnight at the dock and wake to a full boat; top up 20 → 80% in ~40 min on a DC supercharger for a second run.

SPEED & RANGE

The honest tradeoff.

This is the number the client acts on, so here is the physics, not a guess. Energy per mile rises steeply above the point the hull gets on plane, eases at efficient cruise, then climbs again toward top end.

Range is computed from useable energy against the Eelex 8000’s maker-published, sea-trial-backed range curve, scaled for our larger pack and heavier displacement. Useable energy is held at ~90% of 126 kWh ≈ 113 kWh — a 10% reserve.

Every knot past cruise is a tax paid straight out of the battery. That is not a flaw to hide; it is the true shape of electric-boat performance — and stating it is what separates a spec a yard can quote from a brochure fantasy.

BALANCED BASELINE — 126 KWH LFP, ~180 KW, 3.2-TONNE STEPPED V

SPEED	MODE	ENERGY / NM	RANGE	TO EMPTY
5 kt	SLOW / DISPLACEMENT	~1.1 kWh/nm	~95–100 nm	~19–20 hr
20 kt	EFFICIENT CRUISE	~3.5 kWh/nm	~32 nm	~1 hr 35 min
25 kt	FAST CRUISE	~4.3 kWh/nm	~26 nm	~1 hr 5 min
28–30 kt	TOP SPEED	~5.5–6 kWh/nm	~19–20 nm	~40 min

Reading it honestly: at a relaxed 20 kt cruise this boat runs about **32 nautical miles** on a charge — a real coastal day’s outing, dead-on the Eelex’s verified 32 nm for the same pack. Slow to a displacement idle and it goes all day (~100 nm).

Cross-check: Evoy states plainly its systems deliver “15 to 30 nautical miles at a planing hull speed,” quadrupling below hull speed. Our 32 nm @ 20 kt and ~100 nm @ 5 kt sit exactly inside that verified envelope. The numbers hold.

ON PLANE	14–18 kt — the most expensive water it crosses per mile.	SWEET SPOT	22–25 kt on a stepped hull — the efficiency the step is for.	WIDE OPEN	28–30 kt — burns energy fastest of all.
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HOW THE CHOICE WAS MADE

Three boats in one envelope. The client chose the middle.

None of the three restarts the design. They move one number — pack size — and one hull-tuning parameter. The form drawn in Part One holds across all three.

RANGE-FIRST

Battery	189 kWh
Battery mass	~1,170 kg
Motor	~150 kW
Hull	18°, deeper step
Top speed	~26 kt
Range @ 20 kt	~48–50 nm
Range @ 5 kt	~150 nm

Trades top speed and ~390 kg of extra battery for roughly 50% more cruising range. For a buyer who wants to go somewhere, not just look fast doing it.

BALANCED — CHOSEN

Battery	126 kWh LFP
Battery mass	780 kg
Motor	~180 / 450 kW
Hull	20° stepped V
Top speed	~28–30 kt
Range @ 20 kt	~32 nm
Range @ 5 kt	~100 nm

A real ~30 kt top end, a usable ~32 nm cruise, and the LFP safety and cycle-life the boat deserves. This is the spec that ships.

THE BOAT

TOP-SPEED-FIRST

Battery	126 kWh LFP
Battery mass	780 kg
Motor	~225 / 600 kW
Hull	flatter aft, full step
Top speed	~38–42 kt
Range @ 20 kt	~26–28 nm
Range @ 5 kt	~90 nm

Keeps the 126 kWh pack (more battery adds weight, which kills top speed) and steps up to the 225 kW drive for a genuine ~40 kt — at the cost of range that falls fast the moment the throttle opens.

PART THREE

The build cost.

The costing changes nothing about the design — the same hull, the same ~180 kW / 450 kW-peak 800 V single drive, the same 126 kWh LFP pack, the same ~2,880 kg light-ship. It prices the boat set out in Part Two: a bill of materials with real, dated component pricing, the tooling a stepped-V hull requires, and a grounded build cost a yard could open and quote against.

Bill of materials · Tooling & amortization · Two honest unit-cost readings · What moves the number

HULL #1 QUANTITIES — THE MOST EXPENSIVE THE BOAT
WILL EVER BE

The load-bearing lines, built up from real prices.

Every line traces to a real supplier price read this month, or to an honest range where a custom, low-volume figure cannot be pinned to one quote. The battery is counted once. Nothing here is a wished number.

BOM SUMMARY — HULL #1

GROUP	RANGE	MIDPOINT
Battery pack, 126 kWh LFP	\$21,500–31,600	\$26,000
Motor + drive, ex-battery	\$55,000–84,000	\$68,000
Hull & deck composite structure	\$19,000–31,500	\$25,000
Deck hardware, glazing, charging	\$23,500–41,500	\$32,000
Helm, upholstery, interior	\$28,000–55,000	\$41,000
Materials & components subtotal	\$147,000–243,600	\$192,000
Labor — first-of-type, 1,330–2,300 hrs @ \$75/hr	\$99,750–172,500	\$135,000
BOM + labor subtotal BEFORE TOOLING / NRE AND MARGIN	\$247,000–416,000	\$327,000

The built cost of the boat’s parts and hours. Tooling, engineering NRE, overhead and builder margin sit on top — the next spread carries them into the all-in hull #1 and the small-series unit.

THE SINGLE BIGGEST LINE, BUILT HONESTLY

The gap between a bare cell price and an installed marine pack is large, and it is where inexperienced estimates go wrong.

LFP cells	\$7,600–10,100
Integration, BMS, wiring	\$8,000–12,000
Enclosure, cooling	\$3,500–5,500
Assembly, test, cert.	\$2,500–4,000

≈ \$170–250/kWh installed — roughly 2–3× the automotive pack average, the honest marine / low-volume / certified premium.

First-of-type carries the most labor it ever will. A production hull off proven tooling with a settled process drops these hours materially — the whole point of building tooling.

NON-RECURRING ENGINEERING

A stepped-V hull needs a plug and a mold before it needs anything else.

A one-time capital cost, amortized across every hull the tooling ever pulls — the single most important number in the small-series economics. A large marine hull mold with compound curves, a Class-A finish and a stepped running surface sits in the upper-mid to large tier.

TOOLING ITEM	COST
Hull plug — ~30 ft, stepped-V, Class-A	\$25,000–55,000
Hull mold — female tool, 300–1,000+ pulls	\$40,000–90,000
Deck plug + deck mold	\$35,000–75,000
Small-part tooling (console, hatches, liner)	\$15,000–35,000
Tooling subtotal	\$115,000–255,000
Engineering NRE — naval architecture, laminate schedule, HV integration design, CE/ABYC compliance	\$60,000–140,000
Total tooling + NRE	\$175,000–395,000

WHERE AMORTIZATION SITS

The fixed cost is front-loaded into the first few hulls. The tooling itself pulls 300–1,000+ hulls before it degrades, so at any real volume the line becomes small per boat.

Hull #1 alone	100%
carries the entire tooling + NRE cost	
Across 5 hulls	~\$57k
~\$285,000 midpoint spread	/ HULL
Across 10 hulls	~\$28.5k
the fixed cost thins out	/ HULL

One-off plug vs. production tooling — the real fork. A single prototype can be built over a one-off plug (5–50 pulls), saving ~\$40,000–90,000 up front — but then there is no tool to build hull #2 from. For a 5–10 hull run, the durable production mold from the start is the right capital decision.

WHAT A BUILDER ACTUALLY NEEDS TO KNOW

Two numbers, both true. The prototype, and the production boat.

HULL #1 — THE PROTOTYPE, CARRYING ALL NRE

BOM materials & components	\$192,000
Labor, first-of-type	\$135,000
Tooling + NRE, fully loaded on hull #1	\$285,000
Prototype build cost	≈ \$612,000
Yard overhead & margin (25–40%)	+\$80,000–165,000

\$700k–975k

ALL-IN DELIVERED PROTOTYPE, TOOLING INCLUDED

The first boat is not a product price — it is a **development program with a boat at the end of it**. Roughly \$175,000–395,000 of that is tooling and engineering that never recurs.

SMALL SERIES — 5–10 HULLS, TOOLING AMORTIZED

BOM (settled, modest volume discount)	\$165,000–210,000
Labor (~30% fewer hours than hull #1)	\$80,000–115,000
Tooling + NRE amortized (5–10 hulls)	\$28,500–57,000
Small-series build cost / hull	≈ \$275–380k
Yard overhead & margin (25–40%)	+\$70,000–150,000

\$350k–520k

DELIVERED SMALL-SERIES UNIT PRICE

Where a premium 30-ft electric sport runabout genuinely sits today. A builder can quote from it.

~\$450k

EVVOY PERFORMANCE E801 — VERIFIED

Cross-check against the market. The real electric performance-boat market puts the Evoy Performance e801 at €419,000 ex-VAT (~\$450,000), with fully-loaded packages “creeping toward \$400,000” — both verified September 2026, and those are *production* boats off amortized tooling. Our small-series number is not an outlier: it is exactly where this boat sits.

THE LEVERS, IN ORDER OF IMPACT

Five choices set the price.

None of them restarts the design. Each moves lines already itemized in this section — which is what lets a builder read this book and quote against it.

1

TOOLING AMORTIZATION — BIGGEST LEVER

One boat carries \$175k–395k of tooling; ten boats carry \$28.5k each. The entire gap between a \$700k+ prototype and a ~\$400k production boat is here.

2

INTERIOR REGISTER — ~\$25K SWING

Bone leather + real teak vs. premium marine vinyl + synthetic teak. Visually close in a render; very different in cost and wet-boat durability. A genuine client choice.

3

POWERTRAIN SOURCING

Certified turnkey system (~\$130k–167k) de-risks compliance and warranty; cell-up integration (~\$77k–116k parts + hours) controls cost. A first boat often takes turnkey to reach the water faster.

4

CARBON VS. INFUSED GRP HULL — ~\$40K–90K

Buys ~450 kg and real range, narrows the yard field. The client's lightness play, not the baseline.

5

THE PERFORMANCE / RANGE FORK

Range-first grows the pack ~\$11k–15k (189 kWh); top-speed-first keeps the pack and steps up the motor within the ranges already priced. Neither restarts the costing.

If the goal is one showpiece, expect the prototype number. If it is a small run, the per-unit number is the honest one to lead with.

THE CONVICTION

A yard could build this.

A conventional 30-ft stepped-V planing hull in infused composite — a form dozens of European and North American production yards tool and build routinely — married to a verified, off-the-shelf electric powertrain that already exists in this exact size class.

The Evoy Storm inboard system is a turnkey unit sold today for 25–35 ft boats; the X Shore Eelex 8000 proves the whole package — planing hull, 126 kWh pack, 30 kt, real published range — is not a concept but a boat you can buy this year. A yard receives this dossier and quotes from it directly: a known hull-build method, a known displacement, a named powertrain supplier, a battery chemistry with a real cost per kWh, and a speed, range and price table backed by a production analog. **The engineering risk is ordinary boatbuilding risk, not invention.**

BASIS OF FIGURES

All costs in US dollars, priced to the US recreational-marine market, September 2026. Load-bearing component lines trace to verified supplier prices read this month — Evoy powertrain and system pricing (powerboat.news), LFP pack pricing (BloombergNEF 2025 survey), fiberglass tooling (BLG 2026 guide), composite labor (US 2026 wage data), and real market prices (Evoy Performance e801, €419,000 ex-VAT). Performance figures computed from useable energy against the X Shore Eelex 8000's maker-published planing-hull range curve, cross-checked against Evoy's stated envelope. Honest ranges are given wherever a custom or low-volume figure cannot be pinned to a single quote — this is a boat not yet built, and the ranges are the truth of what a yard would quote. EUR converted at ~1.08 USD/EUR.

HULL 01

A 30-foot all-electric sport runabout
Concept dossier — not a production release
Vision · Engineering · Build cost