01 / PROJECT BRIEF & CONTEXT

Project Brief & Context

THE FOUNDER

Kawa Noman — Doktorand in Experimental Physics at RPTU Kaiserslautern-Landau (RPTU). Specialised in thin-film growth, GHz-range RF device design, multi-physics simulations, and advanced nanofabrication. Preparing a significant funding round.

THE TECHNOLOGY

TennaSonic is developing a thermally-resilient Antenna-in-Package (AiP) platform for reliable 5G/6G, satellite, and radar performance. The core challenge: antenna systems degrade above 43–45 °C — critical in mmWave and sub-THz bands. TennaSonic integrates antennas, RFICs, and interconnects into a single compact platform.

MARKET

B2B. Target applications: smartphones, base stations, automotive, satellite terminals, IoT devices. TRL 3 – Experimental Proof of Concept. Nationally financed. Information & communications technology sector.

02 / LOGO DESIGN

TennaSonic — Logo System

The AiP Stack mark represents the multi-layer package structure central to Antenna-in-Package technology — LTCC ceramic, HDI organic, or eWLB mold compound layers. Three application formats defined (Banner, Logo, Name) plus a single-colour variant for print.

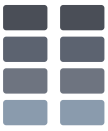
BANNER — LARGE FORMAT

TENNASONIC

Precision mmWave · 5G/6G · AiP

TRADE SHOW · EXHIBITION · LARGE-FORMAT PRINT · NAME ONLY AT SCALE

LOGO — HORIZONTAL LOCKUP



TennaSonic

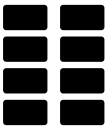
Precision mmWave · 5G/6G · AiP

WEBSITE HEADER · PITCH DECK · BUSINESS CARD · MARK AT T-HEIGHT

NAME — WORDMARK ONLY

TENNASONIC

EMAIL SIGNATURE · DOCUMENT HEADER · FAVICON CONTEXT · WHEN MARK IS REDUNDANT



TennaSonic

Precision mmWave · 5G/6G · AiP

OFFSET PRINT · EMBOSSING · ENGRAVING · FAX · SINGLE-COLOUR CONTEXTS

TECHNICAL BASIS

AiP packages consist of multiple substrate layers stacked vertically. The 2×4 arrangement represents the cross-section of a multi-layer package — each row a distinct layer (antenna, redistribution, interconnect, die).

MATERIAL REFERENCE

Gradient from Steel to Brushed Aluminium represents the multi-layer package stack: LTCC ceramic, HDI organic, or eWLB mold compound. Each layer contributes to thermal resilience.

ABSOLUTE BLACK	STEEL	BRUSHED AL	MID GREY
#000000 · TENNA / Mono	#4A4E57 · SONIC / Top layers	#8A9BAD · Bottom layers	#6E7480 · Middle layers

Typography & Colour — Deep Tech / Metal / Ultrasonic

This identity system is built specifically for TennaSonic's position at the intersection of precision hardware physics, GHz-range engineering, and German R&D culture. Three colour modes are defined. Font selection is grounded in meaning — not aesthetics alone.

TYPOGRAPHY • FONT WITH MEANING

PRIMARY WORDMARK — RECOMMENDED

DIN 1451 / DIN PRO • THE ONLY CORRECT CHOICE

TennaSonic

Precision mmWave · 5G/6G

Why this font specifically: DIN (Deutsches Institut für Normung) is not just a typeface — it is the German national standard for measurement instruments, engineering drawings, road signage, and electrical labelling. It was literally designed for the physical world of machines and infrastructure. Every major German engineering company uses a DIN-adjacent face: Deutsche Bahn, the Bundeswehr, DIN-certified lab equipment. For a startup building hardware for telecommunications infrastructure, using DIN is a quiet declaration of engineering seriousness. It signals: *we come from the tradition of making things that work.*

Weight: **Bold 700** wordmark · **Regular 400** tagline · **Condensed** variant for tight lockups.

SECONDARY — TECHNICAL & DATA

IBM PLEX MONO • TECHNICAL LABELS & SPECS

AiP · mmWave · 5G/6G · TRL 3
−40 °C → +85 °C · Sub-THz

Monospaced reinforces measurement-lab and datasheet register. Ideal for temperature ranges, frequency bands, spec callouts, footnotes. Pair with DIN Pro for a German-precision / IBM-engineering combination that references both the material origin (DE) and the delivery platform (global tech).

SIZE SCALE

72 pt	Trade show / large-format banner
28–36 pt	Pitch deck headline
16–20 pt	Web header wordmark
11–13 pt	Tagline
8–10 pt	Spec labels, footnotes, contact
6–7 pt	Minimum legible (icon + name)

WEIGHT RULES

Wordmark: Bold / 700

Tagline: Light / 300 — weight contrast is the signal

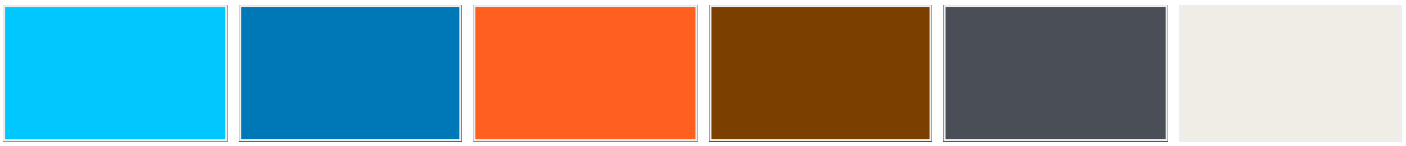
Body: Regular / 400

Never use italic — precision hardware brands do not imply motion; they imply permanence

PALETTE A • METAL & MATERIAL • PRIMARY RECOMMENDATION

Drawn from the physical materials of antenna-in-package fabrication: machined aluminium housings, tungsten via-fills, copper RF traces, solder alloy, and the dark anechoic chambers where antenna testing takes place. No generic "startup blue".

ANECHOIC	TUNGSTEN	BRUSHED AL	POLISHED AL	CU TRACE	SOLDER
#1A1A1A	#3C3C3C	#8A9BAD	#C2C8D2	#B87333	#D4C9A8



PLASMA CYAN	RF BLUE	THERMAL	OXIDISED CU	STEEL	LAB PAPER
#00C8FF	#0077B6	#FF5F1F	#7B3F00	#4A4E57	#F0EDE6

Metal mode (dark): Anechoic ground + Plasma Cyan mark + Brushed Aluminium wordmark. Use for investor decks, booth graphics, dark-mode UI.
Metal mode (light): Lab Paper + Tungsten wordmark + RF Blue or Cu Trace accent. Use for technical datasheets, printed materials.
Accent hierarchy: Plasma Cyan = signal / active; Cu Trace = hardware / fabrication; Thermal Orange = temperature stress (callout only).
Avoid: Purple, gradients on the wordmark itself, or metallic gradients in print (they reproduce poorly).

PALETTE B • BLACK ON WHITE • PRIMARY PRINT & ENGINEERING REGISTER

The black-on-white version is not a fallback — it *is* the most credible version. German engineering documentation, DIN-standard technical drawings, and academic physics papers all live in black on white. This palette positions TennaSonic inside that tradition — the engineering register that commands technical credibility.

TennaSonic

Precision mmWave · 5G/6G

BLACK ON WHITE

TennaSonic

Precision mmWave · 5G/6G

TENNA BLACK · SONIC STEEL

ABSOLUTE BLACK	CARBON	INK	PURE WHITE	TECHNICAL WHITE	RF BLUE (ACCENT)
#000000	#111111	#3C3C3C	#FFFFFF	#F7F5F2	#0077B6

Use black on white for: Business cards, letterhead, PDF datasheets, academic or grant submissions, technical documentation, newspaper / journal advertising.
Accent rule: In B/W mode, one single accent colour maximum — either Steel (#4A4E57) or no colour at all. Split wordmark colour (Tenna in Absolute Black / Sonic in Steel) is permitted only at > 16pt.
This is the baseline: If a logo does not work in black ink on white paper, it does not work.

LOGO SIZE SPECIFICATIONS

APP ICON / FAVICON	DIGITAL / WEB HEADER	PRINT / PITCH DECK
16 × 16 px → 1024 × 1024 px	Height: 32–48 px	Min. 25 mm width
Icon mark only — no wordmark. Minimum clear space: 4 px at 16 px scale. Deliver SVG + PNG @1×, @2×, @3×.	Icon + wordmark horizontal lockup. SVG preferred. Minimum wordmark: 11 pt / ~14.7 px.	Vector SVG or EPS only. Below 20 mm: icon-only version. Business card: 32 × 10 mm horizontal lockup.

Industry Logo Comparison — Deep Tech, R&D Labs & Physics Institutes

Survey of visual conventions across ultrasonic hardware, industrial deep tech, and — new in this version — R&D university departments and physics/electromechanics research institutes (Germany, Netherlands, Japan, US).

ULTRASONIC TECHNOLOGY • GLOBAL

Hielscher Ultrasonics
Teltow, Germany
Industrial ultrasonic processors

Olympus NDT
Japan / USA
Non-destructive testing

Branson Ultrasonics
Danbury, CT, USA
Ultrasonic welding

SONOTEC GmbH
Halle, Germany
Ultrasonic sensors, NDT

microsonic GmbH
Dortmund, Germany
Industrial ultrasonic sensors

ELECTRIC DEVICES & HARDWARE DEEP TECH

Infineon Technologies
Munich, Germany
Semiconductors, MEMS, power

Siemens AG
Munich, Germany
Industrial automation

ABB Ltd
Zurich, Switzerland
Robotics, electrification

Robert Bosch GmbH
Stuttgart, Germany
Automotive electronics, IoT

PI Ceramic GmbH
Lederhose, Germany
Piezoceramic transducers

SaxonQ GmbH
Leipzig, Germany
Mobile quantum computers

R&D UNIVERSITY DEPARTMENTS & PHYSICS INSTITUTES • DE / NL / JP / US

NL • EST. 1842

TU Delft — ECTM Dept.
Delft, Netherlands
Electromechanics, MEMS, RF microsystems

DE • EST. 1949

Fraunhofer IMS / IAF
Duisburg / Freiburg, Germany
RF semiconductors, GaN, microelectronics R&D

JP • EST. 1917

RIKEN — CEMS
Wako, Saitama, Japan
Condensed matter physics, quantum materials, electromechanics

US • EST. 1951

MIT Lincoln Laboratory
Lexington, MA, USA
RF technology, mmWave radar, phased arrays, semiconductor R&D

INSTITUTE	VISUAL APPROACH	LESSON FOR TENNASONIC
TU Delft ECTM	Strong horizontal rule + modular letterform. Single institutional blue.	A precision letterform (the T in TennaSonic) can carry identity alone — the mark need not depict a wave.
Fraunhofer IMS	Modular bar columns suggest signal levels or data layers. Institutional green. Scalable.	Abstract frequency bars read as "measurement" without illustrating a wave — avoids cliché while remaining sector-legible.
RIKEN CEMS	Crosshair / coordinate mark — precision, measurement, exactness. Deep institutional red.	A target or crosshair device would convey precision tuning — relevant for thermal resilience and signal reliability messaging.
MIT Lincoln Lab	Engineered border / rule system contains bold abbreviated wordmark. Minimal, credible, defense-grade.	A contained rule-system wordmark (no decorative icon) reads as high-precision research — appropriate for B2B investor audiences.

SOURCES: OFFICIAL INSTITUTE WEBSITES, WIKIPEDIA, TRACXN, PITCHBOOK • UPDATED APRIL 2026

Founder Input — Logo Drafts

Provided during brief as well as online available versions on LinkedIn & Match’em

DRAFT A • ROUNDED SQUARE

T-letterform in rounded square container. Wifi arcs indicating signal. Blue two-tone palette. Clean, tech-product register.

DRAFT B • TOWER + WORDMARK

Antenna tower with concentric signal rings. Bold wordmark with cyan accent. Dark purple ground. Strong broadcast identity.

DRAFT C • ARC MARK

Simplified wifi arc mark, outlined form. Teal/pink wordmark split. Tagline "Powering 5G/6G everywhere". More startup-friendly register.

DRAFT D • PRE-BRIEF VERSION

Blue background · WiFi-arc mark · "Powering 5G/6G everywhere". Pre-brief version sourced online (LinkedIn / Match'em). Circular WiFi arcs excluded from development (Spotify association noted by designer). Colour palette and tagline revised in brief.

DRAFT	STRENGTHS	RISKS / NOTES	RECOMMENDED DIRECTION
A — Rounded Square	Scalable icon, clean app-icon potential, professional	Wifi arc above T may conflict with existing telecom marks	Refine T-letterform; explore non-arc signal device
B — Tower + Wordmark	Authoritative, sector-legible, strong contrast	Purple background limits versatility; tower icon is generic in telecom	Extract mark, test on white background
C — Arc Mark	Lightweight, flexible, good small-size performance	Closest to Spotify concern noted by designer; outlined arcs may be too familiar	Develop alternative mark directions
D — Pre-Brief Version	Documents pre-brief visual language: blue ground, WiFi-arc mark, 5G/6G tagline. Useful reference for understanding the direction that was superseded	WiFi/circular arc excluded (Spotify association noted by designer). Blue not in Palette A or B. Tagline generalised	Direction not developed; superseded by AiP Stack and Name Only directions per brief

Legal Disclaimer & Portfolio Rights

The founder contacted the designer regarding logo design. **All design work shown in this document — including digital concepts, typography recommendations, colour systems, and analysis — is provided for preview purposes only.** No production assets (SVG, PNG at specified sizes, EPS, or usage guidelines) will be released until one of the following conditions is met:

CONDITION A • EMPLOYMENT CONTRACT

A formal employment contract between the designer (Petra Kühnle) and TennaSonic / the founding team is signed and in effect. IP transfer terms to be specified in the contract.

CONDITION B • FREELANCE / SERVICES CONTRACT

A freelance or design services contract is signed. Delayed payment is permitted under written agreement, contingent on the company's formal legal founding being finalised. IP remains with the designer until full payment is received.

Until contractual transfer of intellectual property is completed, **all draft work shown in this document remains the exclusive property of Petra Kühnle.** The founder-generated digital logo concepts (Drafts A, B, C, D) were produced by TennaSonic / K. Noman prior to this brief and remain their property.

DESIGNER'S PORTFOLIO RIGHTS & CREATIVE OWNERSHIP

This document and all draft design work contained herein is the property of Petra Kühnle. The scope of the designer's intellectual property includes, but is not limited to:

- **Typography selection** — the choice of DIN 1451 / DIN Pro as the primary typeface and its justification within the German engineering heritage context is an original design decision by P. Kühnle
- **Colour system** — Palette A (Metal/Material) and Palette B (Black on White), including all named colour values, their rationale, hierarchy rules, and usage guidance, constitute original creative work by P. Kühnle
- **Logo directions** — the AiP Stack direction and the Name Only direction, including all visual explorations, were originated and directed by P. Kühnle
- **Design research and industry analysis** — the competitor review, sector conventions analysis, and typographic reasoning are original intellectual work by P. Kühnle

All of the above may be used in the designer's professional portfolio at her discretion, including in applications, agency pitches, and design showcases.

PROCESS NOTE • AI-ASSISTED DOCUMENTATION

This documentation was produced with the assistance of Claude (Anthropic), an AI language model, used as a tool for layout, SVG rendering, and document structuring. **All creative decisions, design directions, typeface selections, colour choices, and prompt iterations were originated by Petra Kühnle.** The AI was directed through original prompts by the designer and iterated through multiple rounds of review, correction, and design consideration — including technology context, market context, and aesthetic criteria. The role of AI in this process is equivalent to that of a tool (as a pen or layout software) operated by and under the sole creative authority of the designer.