European Society of Ophthalmology

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Project Abstract

Title of Project: Establishing a Data Science & AI-enabled Services for Moorfields Clinical Trial Facility and Reading Centre

Purpose:
Ophthalmology trials are increasingly imaging- and biomarker-driven, creating high operational burden across eligibility checks, pre-screening/recruitment, endpoint definition/validation, and large-scale grading/annotation. This project will establish a dedicated Data Science & AI services embedded within the Reading Centre and Clinical Trials Unit to deliver validated tools and standardised workflows that improve speed, reliability, reproducibility, and auditability of trial delivery while enabling scalable growth.

Methods:

We will implement a pragmatic "start-up phase" operating model:

1. Service catalogue + intake/triage covering tool development, validation, and implementation for trials and reading-centre operations (including eligibility/inclusion-exclusion logic, pre-screening, recruitment support, endpoint validation, grading/annotation, and QC).
2. Build an MVP platform for ML-enabled biomarker annotation and QC, designed for multi-modality workflows and longitudinal/cross-modality alignment (e.g., imaging registration concepts as a foundational capability).
3. Create a minimal but robust SOP suite (data handling, annotation/QC/adjudication, validation reporting, monitoring, change control, incident management).

Results:

Within 12 months, deliver: (i) a functioning annotation/QC platform with audit trails and exportable datasets; (ii) an SOP and template pack enabling reproducible delivery; (iii) a transparent intake/bidding model for projects; (iv) bid for at least one flagship pilot demonstrating measurable improvement (turnaround time, rework rates, inter-grader agreement, and operational recruitment yield); (v) bid for a Reading Centre Operations Manager role accountable for SOPs, audits/inspections, regulatory alignment (GCP/MHRA/GDPR), workforce planning, and service performance reporting against SLA

Conclusion:
Dedicated Data Science & AI services converts trial delivery from *ad hoc* heroics to a scalable, auditable service line—improving sponsor confidence, accelerating study timelines, and enabling reliable biomarker/endpoint validation as trial volume increases.