Abstract: Methods and systems for planning a bronchoscopic lung volume reduction procedure, such as placement of a one-way valve or biosealant or energy delivery in a patient's lungs. The system may include a processor and programming operable on the processor for planning the lung volume reduction procedure. Planning the lung volume reduction procedure by the processor may include receiving (12) patient volumetric images, analyzing (14) the images to identify the lobes and airway tree of the lungs, displaying (20) a suggested treatment volume on the three dimensional model, receiving (22) a selected treatment volume from a user, generating and displaying (24) a suggested treatment location within the airway tree, receiving (26) a selected treatment location within the airway tree from the user, receiving (18) a selected treatment modality from the user, and displaying (28) a treatment plan.

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report: 18 December 2014

Published:
— with international search report (Art. 21(3))
**A. CLASSIFICATION OF SUBJECT MATTER**
INV. A61B19/00
ADD. A61B17/00

According to International Patent Classification (IPC) or to both national classification and IPC

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Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:
   *"A" document defining the general state of the art which is not considered to be of particular relevance
   *"E" earlier application or patent but published on or after the international filing date
   *"L" document which may throw doubts on priority claim(s) one of which is cited to establish the publication date of another citation or other special reason (as specified)
   *"O" document referring to an oral disclosure, use, exhibition or other means
   *"P" document published prior to the international filing date but later than the priority date claimed

**B. FIELDS SEARCHED**
Minimum documentation searched (classification system followed by classification symbols)
A61B G06T A61F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

**Date of the actual completion of the international search**
25 July 2014

**Date of mailing of the international search report**
28/10/2014

Name and mailing address of the ISA:
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-2016

Authorized officer
Mathis, Martin
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Form PCT/ISA/210 (continuation of second sheet) (April 2005)
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<td>WO 2005007023 A2</td>
<td>27-01-2005</td>
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INTERNATIONAL SEARCH REPORT

Box No. II  Observations where certain claims were found un searchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.: because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III  Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☑ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-12, 20-29

Remark on Protest  ☐ The additional search fees were accompanied by the applicant’s protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant’s protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.
International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-12, 20-29

A system for planning a bronchoscopic lung volume reduction procedure for a patient comprising:
- a processor;
- programming operation on the processor for planning the lung volume reduction procedure;
- and
- an accompanying method for using this system, so that a bronchoscopic lung volume reduction procedure can be pre-planned.

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2. claims: 13-19

A system for monitoring the results of a lung volume reduction procedure for a patient comprising:
- a processor;
- programming operation on the processor for displaying the results of a lung volume reduction procedure,
- so that the results of a lung volume reduction procedure can be monitored.

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